



Microsoft Exchange --- Server 2003

Exchange 2003

MSTP

- What is new?
- What has gone?
- Installation
- Administration
- Security
- Outlook 2003
- Mobile/Outlook Web Access

Exchange 2003 Overview



MSTP

- What's new compared to 5.5
 - Exch Admin functionality is now split between AD Users and Computers and Exchange Snap-ins
 - Routing Groups (old Sites) and other functions are configured in the Exchange Snap-in
 - Improved memory Allocation
 - Reduced AD Replication
- Exchange Architecture
 - Similar to Exch 5.5 with AD
 - Client Server Messaging system
 - The server services and/or Outlook will contact each other to retrieve messages
 - If Outlook can't contact the server you can't view your mailbox

Exch 5.5 vs. 2003

Comparison

 MSTP

- 5.5 relied heavily on the RPC service
- 2003 relies on SMTP
 - Requires IIS to be installed on the 2003 Server in order to use the SMTP connectors (required for Exch 2003)
- 2003 can talk RPC to 5.5 if you leave Exch 2003 in mixed mode
- 5.5 Organization is like the Forest in 2003
- Dist Lists are now Dist Groups



What's new



MSTP

- Network Load Balancing - Standard
- Volume Shadow Copy Service (VSS)
- Less Active Directory replication
- Query-based distribution groups
- PKI Integration
- RPC over HTTP(S)



Organization Hierarchy

MSTP

- Admin Groups
 - Routing Groups
 - Servers
 - Storage Groups
 - **Information Store contains:**
 - Mailbox Information Store
 - Public Information Store

Exchange Components

MSTP

- **Required Components:**
- Information Store
 - Storage Groups
 - 4 Mailbox Stores in each storage group plus 1 reserved for backup and restoration operations (5 total)
 - Exch 2003 Enterprise can have 4 Storage Groups and 4 Mailbox Stores per Storage Group
 - Each Mailbox Store can be backed up and restored independently of each other
 - Collection of databases
 - Each Storage Group can have 1 or more Public and Private information stores

Exchange Components Removed

MSTP

- M: drive \\.\BackOfficeStorage is still useable
- Chat Service (Live Communications Server 2003)
- Instant Messaging (idem)
- Conferencing Server (Live Meeting)
- Key Management Service (KMS)
- ccMail connector
- MSMail connector

Which Edition

MSTP

	Standard Edition	Enterprise Edition
Storage Groups	1	4
Stores /Group	2	5
Store Size	16GB	16TB
Clustering	N	Y
X.400 Connector	N	Y
Front End	Y	Y
Recovery Storage Group	Y	Y

Required Components

cont...

- IS Service
 - The go between from Routing Engine to the Information Store
 - The intermediary between the IS databases and other components of Exchange
- Internet publishing
- Installable file system
 - The Exchange directory can be mounted as a file system-use Windows Explorer to view the Inbox and other containers
 - Not good for bricklayer backups-can corrupt the IS

Required Components

cont...

- Routing Engine
 - Routes messages between the IS and the SMTP service for delivery either locally or to other Exchange or Internet mail servers
 - Responsible for inter and intra routing group message transfers
 - Same as the MTA in 5.5
 - Message Flow

Required Components

cont...

- System Attendant
 - Helps other servers monitor links to local server
 - Monitors for and corrects Exchange inconsistencies in the AD on it's server
 - Collects message tracking data
 - Builds routing tables for all routing groups
 - Interacts with AD to build the routing tables
 - Generates X.400, MS-Mail and other types of addresses
 - When generating addresses interacts with AD
 - Used to enable and disable security using digital signatures and certificates



Optional Components



MSTP

- Exchange System Manager (Snap-in)
- Directory Synchronizing agent
 - Lets you create addresses from outside your organization and allows you to send your addresses to foreign messaging systems
 - MS 3.x protocol

Optional Components

cont...

- Event Management service
 - Supports server based event management
 - Such as server side message routing when a message arrives
- MS Search
 - Full text indexing
 - Useful for indexing a Public Information Store

Optional Components

cont...

- OWA
 - Outlook Web Access
 - SSL
 - GAL searchable
 - Drag and drop into folders
 - Supported by IIS
- POP3 server
 - Can only access the Inbox folder on the server

Optional Components

cont...

- IMAP 4 server
 - Can access folders and your Exchange Inbox
 - Download or leave on server or both
- NNTP server

Optional Components

cont...



MSTP

- Connectors
 - Routing Group Connectors
 - Preferred connector for linking routing groups
 - Can also use SMTP or x400 connectors
- AD Connector
 - Links Exch 5.5 and Exch 2003 directories in synch
- SMTP Connector (Exchange)
 - Provides support for dial up routing group connections



Distribution Groups

MSTP

- Same as a distribution list in Exch 5.5
- Configured in AD users and computers
- Two types of groups--Security and Distribution
 - Security group can have ACL permissions and can be used to route messages
 - Distribution group cannot be assigned permissions and can also be used to route messages
- Contacts
 - Created in AD Users and Computers
 - Replaces Custom Recipients



Dependencies



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- Windows 2003 server version or W2K SP3 Server is required to run Exchange 2003 Enterprise
- IIS 6.0-IIS is required for SMTP and public folder web hosting

Exchange 2003 Planning

MSTP

- Planning Process
 - Required Permissions
 - Forest Prep
 - Where and when to run
 - Domain Prep
 - Where and when to run
 - Define Administrative Boundaries
 - Routing Groups

Exchange 2003 Planning cont...

MSTP

- Connectors
 - Routing group connector
 - SMTP
 - X.400
- Distribution Groups
- Storage Groups
 - Mailbox Stores
 - Public Stores
- Exchange 5.5 interoperability (DMS/DMDS)

Exchange 2003 Planning

cont...

MSTP

- **Planning a Server/Hardware Requirements**
 - Drive allocation
 - Log file location
 - Disaster recovery planning
 - Ability to backup and restore each IS
 - Hardware RAID
 - UPS
 - Spread the load or concentrate
 - Define how close other services are located
 - AD, DNS, GC
 - Validate and test in a non production environment



Design Review

MSTP

- Domain and Site Relationships
 - Sites are now Routing Groups in Exchange 2003
 - Use Exch System Manager to create them
 - Can use single, hierarchical, hub and spoke or full mesh
- Designing the name space
 - Don't make the Domain and Exch Organization names different
 - This can cause the IS service not to start
- Routing Group Links
 - Assign costs for multiple links
 - Can use RGC or SMTP (both use SMTP)
 - Can use X.400 for Exch 5.5 (must also change the LDAP port to TCP port 390 in Exch 5.5 Admin in the Protocols container)

Design Review cont...

MSTP

- AD Intra/Inter Site Replication
 - Intra-site uses DS-RPC
 - Inter-site can be over either DS-RPCs or SMTP
 - Use the KCC to establish the links
- Creating Exchange 2003 Mailboxes and Groups
 - Use the AD Users and Computers snap-in
- Global Catalog Placement

E2K3 Setup and Configuration

MSTP

- System Requirements:
 - Intel Pentium or compatible 133 MHz or higher processor
 - Microsoft Windows 2000 SP3 Server operating system or better
 - 256 MB of RAM recommended minimum; 128 MB supported minimum
 - 500 MB of available disk space on the drive on which you install Exchange
 - 200 MB of available disk space on the system drive
 - CD-ROM drive
 - SVGA or higher-resolution monitor

Setup and Configuration



MSTP

- Installing Exchange 2003
 - Requirements
 - ✓ IIS must be installed for Exchange to install properly (not necessarily serving a web page) SMTP and NNTP service
 - ✓ ASP.net
 - ✓ WWW Publishing Service
 - ✓ Product key code
 - ✓ List of components to install
 - ✓ Name of Organization
 - ✓ Location to install components
 - Paths default to c:\Program Files\Exchsrvr
 - Windows 2003 Service Account (Domain Prep)

Setup and Configuration cont...



MSTP

- Permissions required
 - Domain Admin
 - Schema Admin (1st install)
 - If someone else will be running Forest Prep, they must know the organization name
 - Enterprise Admin (1st install)
- Exchange Administrative Roles
 - View Only
 - Exch Admin (modify and do everything but change permissions)
 - Exch Full Admin (full control)

Setup and Configuration

cont...

- Connector Configuration
- Public Folders
- Mailbox Stores
- Administrative Groups
- Storage Groups
- Routing Groups
- OWA

MSTP



E2K3 Setup and Configuration

MSTP

- Before installing exchange in the forest you must run two utilities

- ForestPrep

E:\ExchW2K3Scr\Setup\I386\SETUP.EXE /forestprep

- Extends the Active Directory Schema, adding Exchange 2003 server relevant objects

- DomainPrep

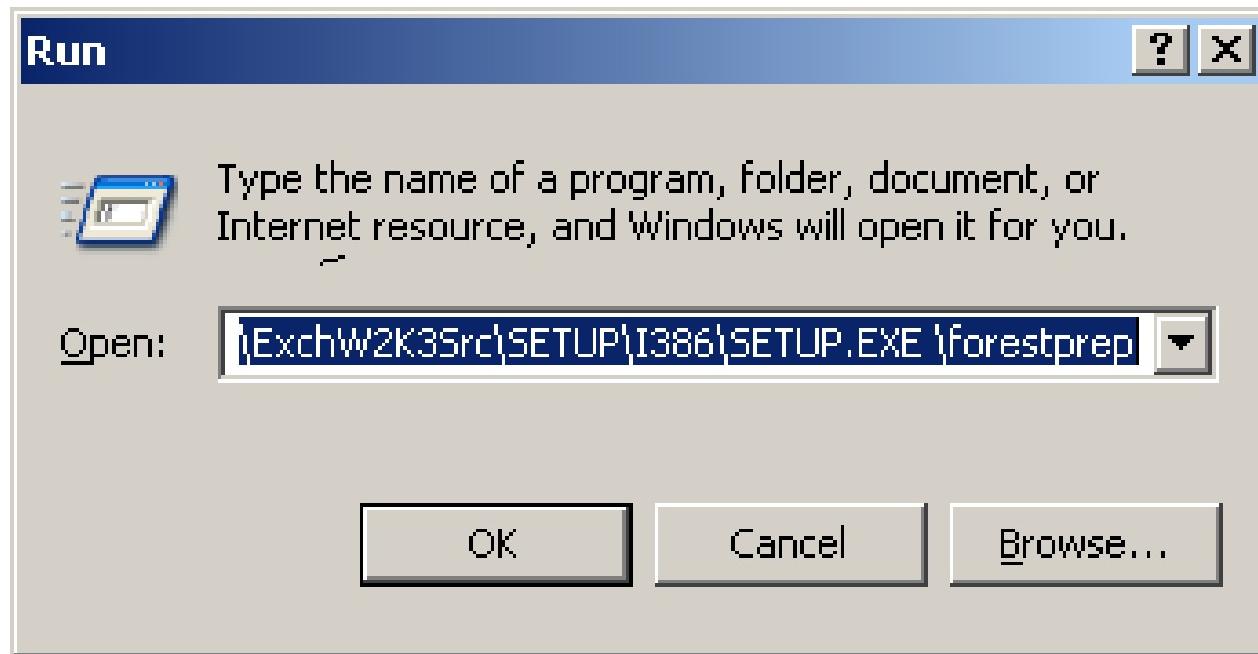
E:\ExchW2K3Scr\Setup\I386\SETUP.EXE /domainprep

- Prompt for the address list server responsible for this domain.
 - Creates the global security group, *Exchange Domain Servers*.
 - Creates the domain local security group, *Exchange Enterprise Servers*.
 - Adds *Exchange Domain Servers* group to the *Exchange Enterprise Servers* group.

E2K3 Setup and ForestPrep



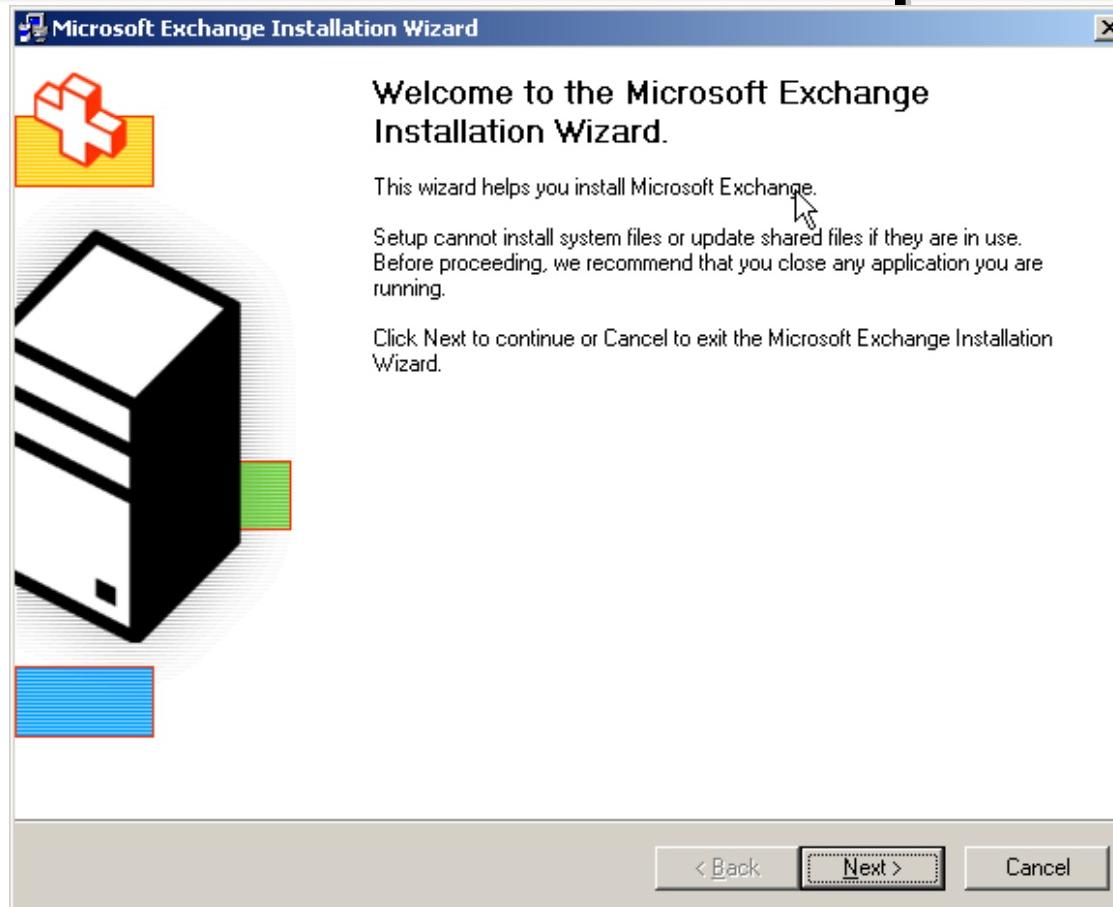
MSTP



E2K3 Setup and ForestPrep



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Note: If you are installing the first server with W2K3 and Exchange 2003 using the default administrator account created you do not need to run ForestPrep/DomainPrep

E2K3 Setup and ForestPrep



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Microsoft Exchange Installation Wizard

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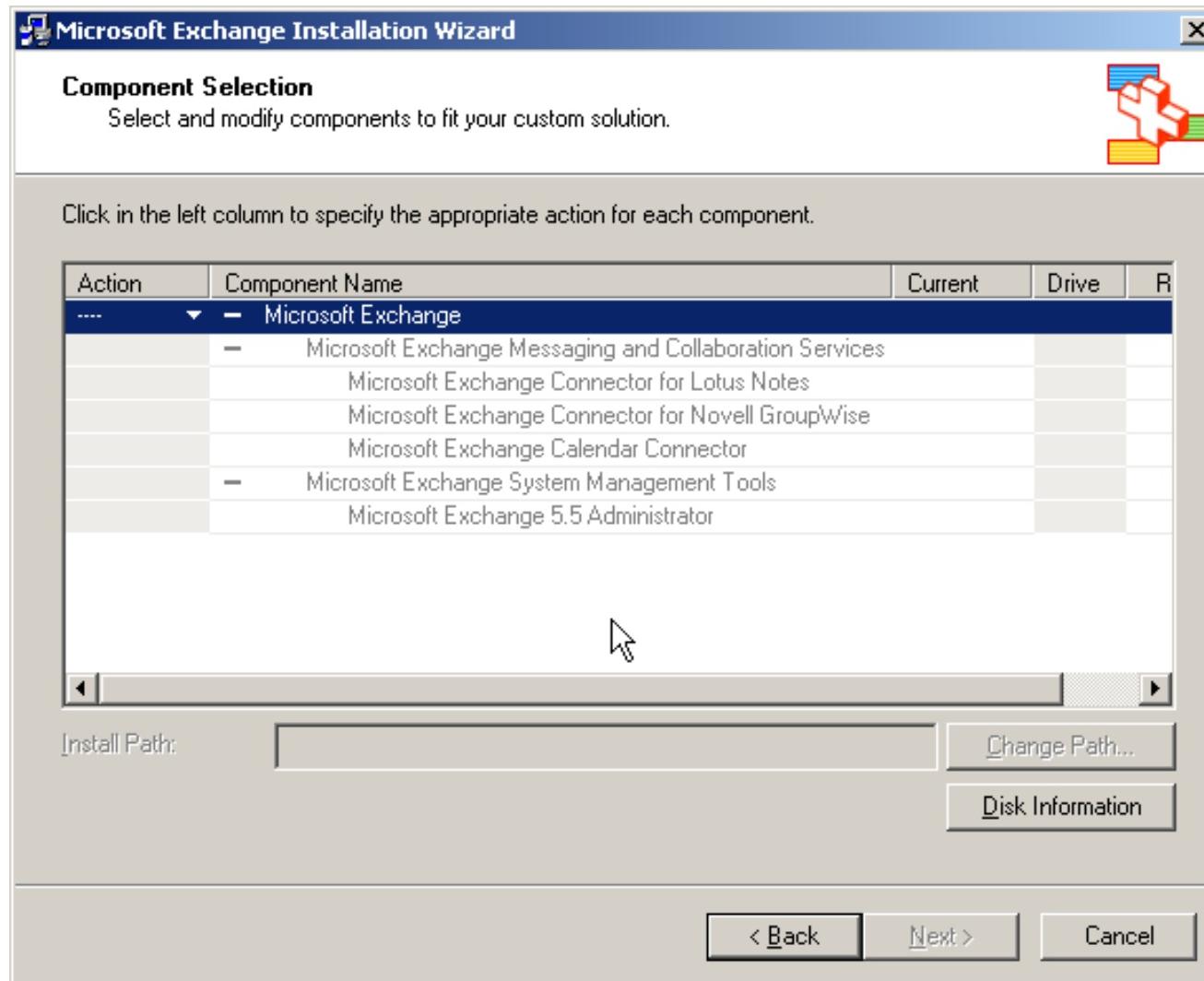
I agree
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< Back Next > Cancel

Exchange 2003 Installation



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Exchange 2003 Installation



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Microsoft Exchange Installation Wizard

 The component "Microsoft Exchange Messaging and Collaboration Services" cannot be assigned the action "Install" because:

- The NNTP component of Microsoft Internet Information Services (IIS) is either not installed or disabled
- The SMTP component of Microsoft Internet Information Services (IIS) is either not installed or disabled
- Microsoft Internet Information Services (, version 5.0 or higher, is either not installed or disabled)
- The World Wide Web Services component of the Microsoft Internet Information Services (IIS) is either not installed or disabled
- Setup has detected that ASP.Net v1.1 or above has not been installed. This component is required for the installation of Outlook Mobile Access. Please goto Control Panel->Add/Remove Programs or the Configure Your Server wizard to install ASP.Net.

The component "Microsoft Exchange System Management Tools" cannot be assigned the action "Install" because:

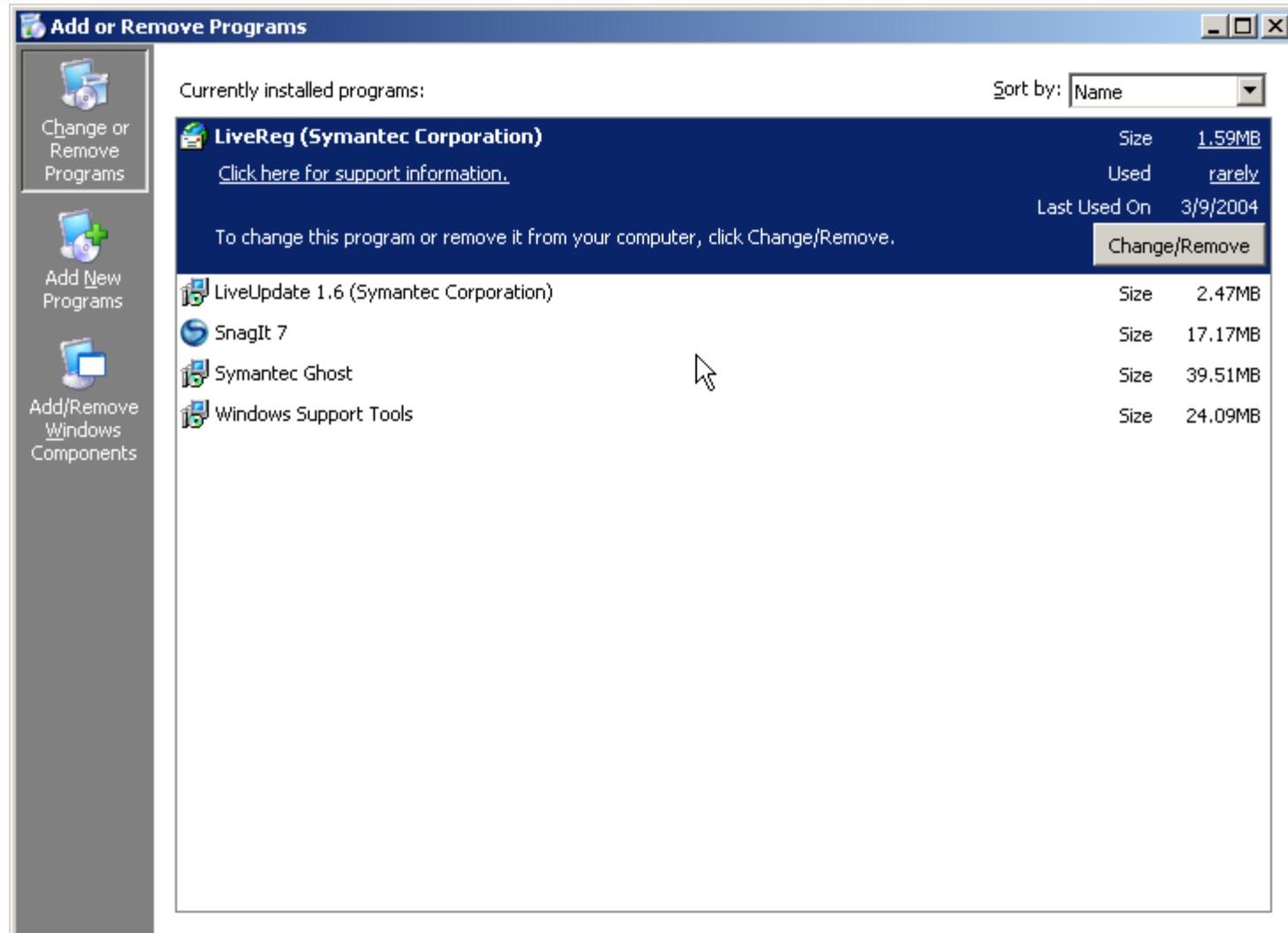
- The "Internet Information Services Snap-In" component of the Microsoft Internet Information Services (IIS) is either not installed or disabled

OK

Exchange 2003 Installation



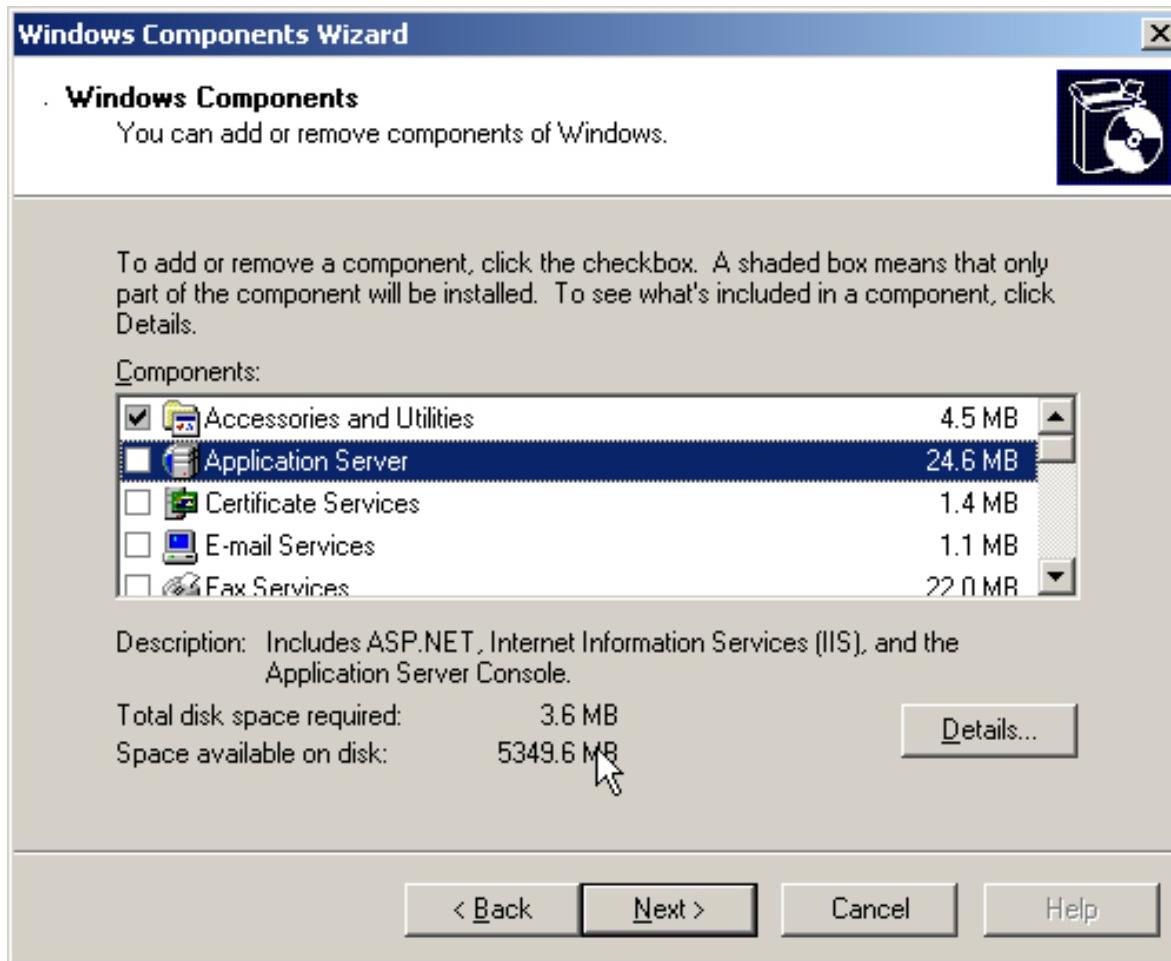
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Exchange 2003 Installation



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Exchange 2003 Installation



MSTP

Application Server

To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.

Subcomponents of Application Server:

<input checked="" type="checkbox"/> Application Server Console	0.0 MB
<input type="checkbox"/> ASP.NET	0.0 MB
<input checked="" type="checkbox"/> Enable network COM+ access	0.0 MB
<input type="checkbox"/> Enable network DTC access	0.0 MB
<input checked="" type="checkbox"/> Internet Information Services (IIS)	18.1 MB
<input type="checkbox"/> Message Queuing	6.5 MB

Description: IIS Includes Web, FTP, SMTP, and NNTP support, along with support for FrontPage Server Extensions and Active Server Pages (ASP).

Total disk space required: 2.9 MB

Space available on disk: 5349.6 MB

Details...

OK Cancel

Exchange 2003 Installation



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Internet Information Services (IIS)

To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.

Subcomponents of Internet Information Services (IIS):

<input type="checkbox"/> FrontPage 2002 Server Extensions	5.1 MB
<input checked="" type="checkbox"/> Internet Information Services Manager	1.3 MB
<input type="checkbox"/> Internet Printing	0.0 MB
<input checked="" type="checkbox"/> NNTP Service	1.2 MB
<input checked="" type="checkbox"/> SMTP Service	1.3 MB
<input checked="" type="checkbox"/> World Wide Web Service	8.0 MB

Description: Supports the transfer of electronic mail

Total disk space required: 5.0 MB

Space available on disk: 5350.6 MB

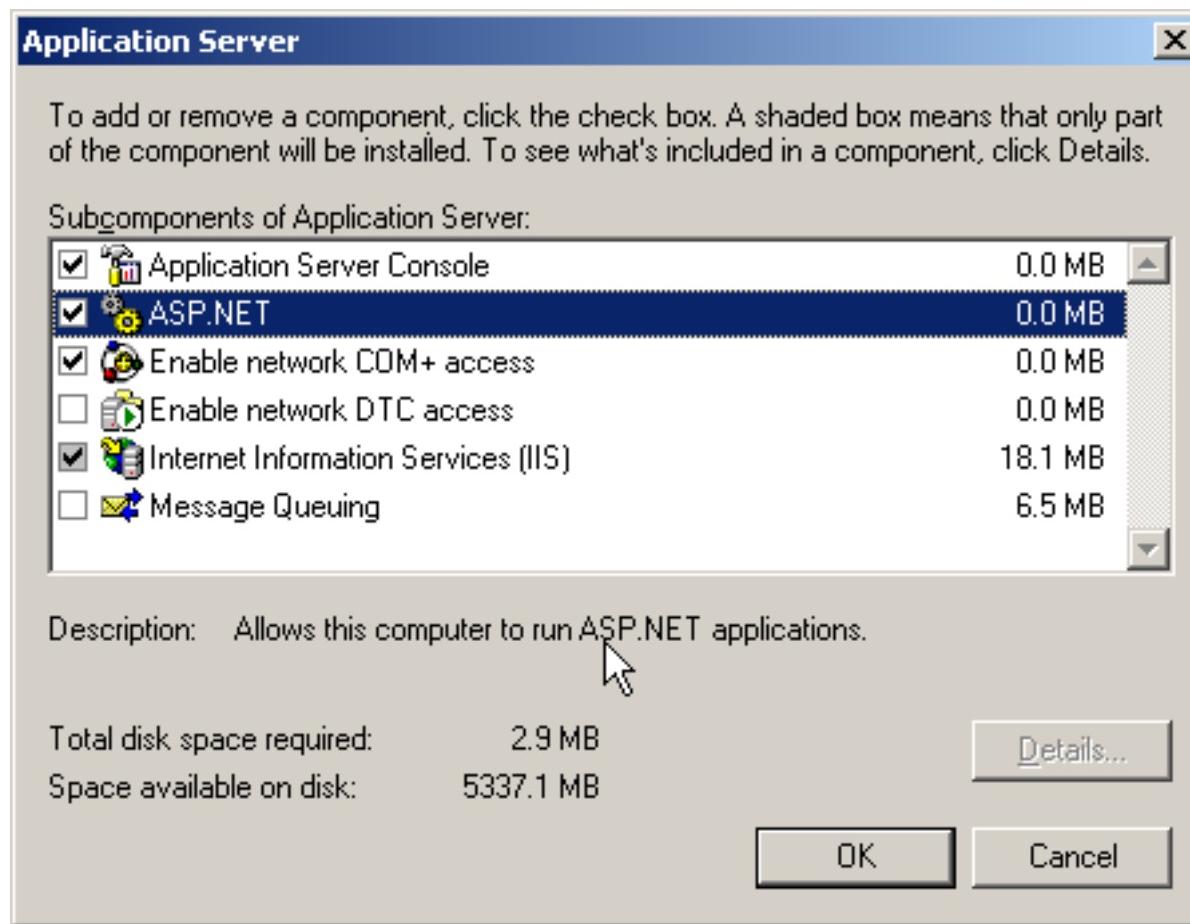
[Details...](#)

OK **Cancel**

Exchange 2003 Installation



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Exchange 2003 Installation



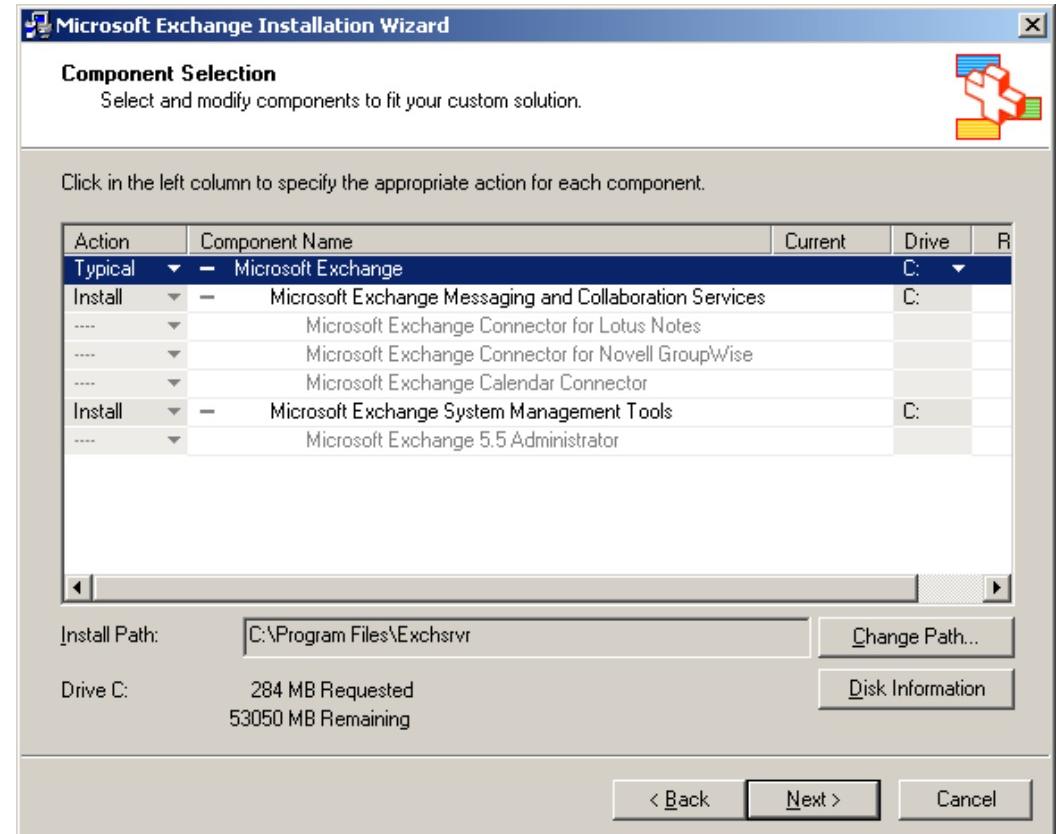
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E2K3 setup and ForestPrep



MSTP

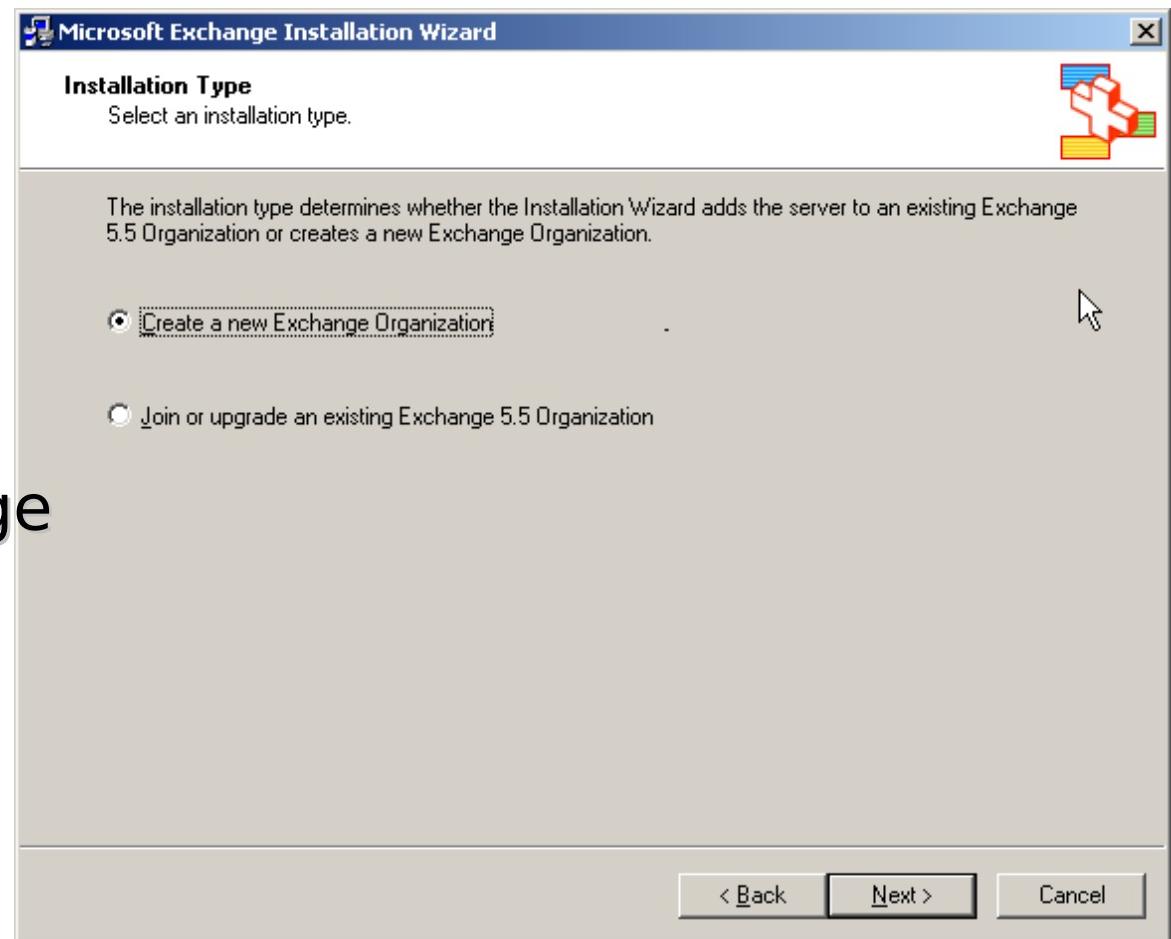


E2K3 setup and ForestPrep



MSTP

- ForestPrep
 - Create a new Exchange Organization
 - Join or upgrade existing Exchange 5.5 Organization

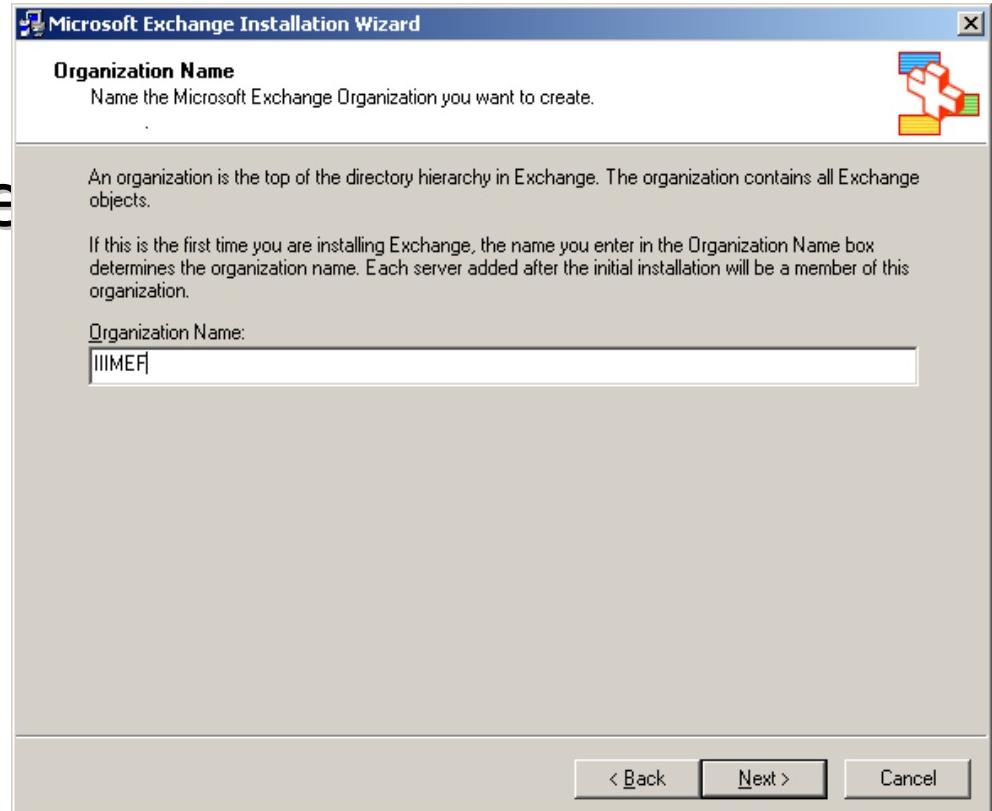


E2K3 Setup and ForestPrep



MSTP

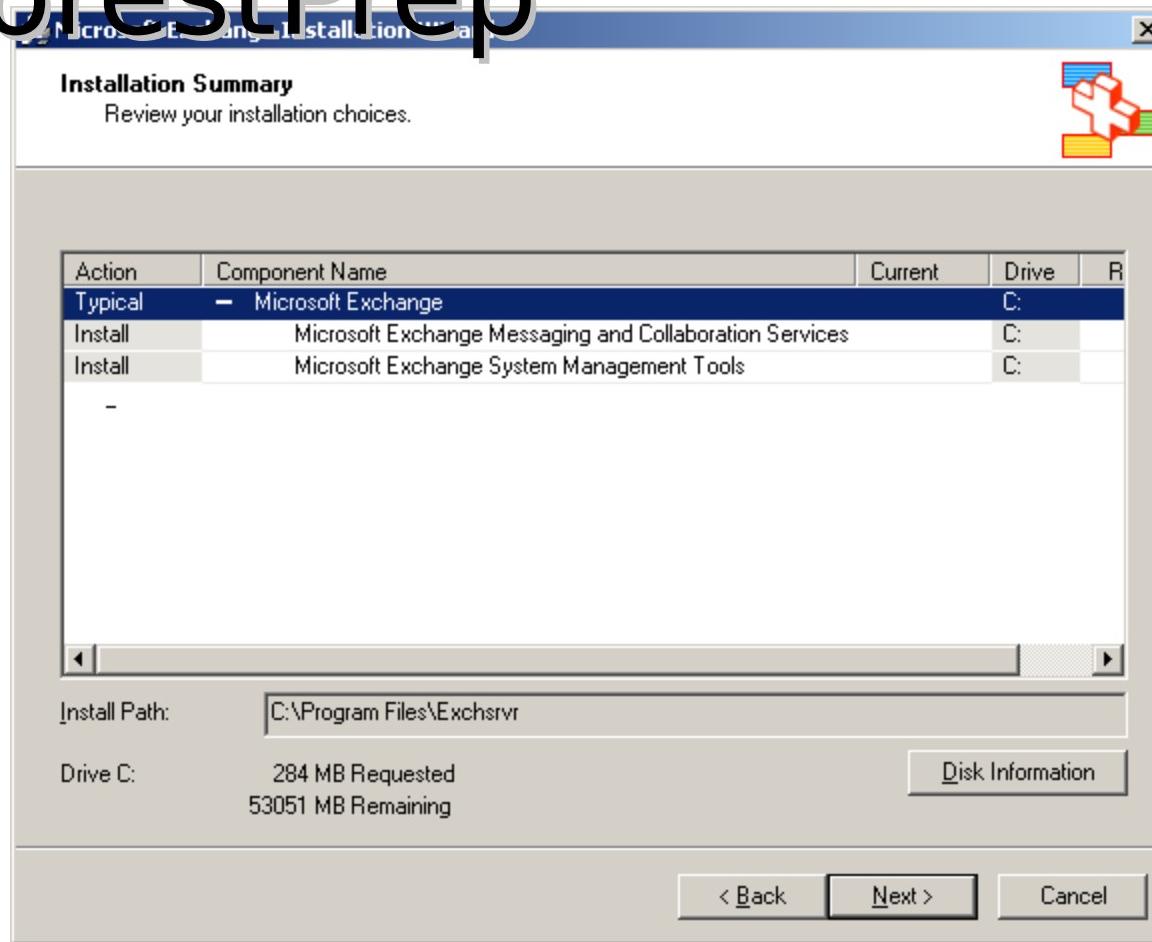
- Organization name needs to be the same as the Root Domain





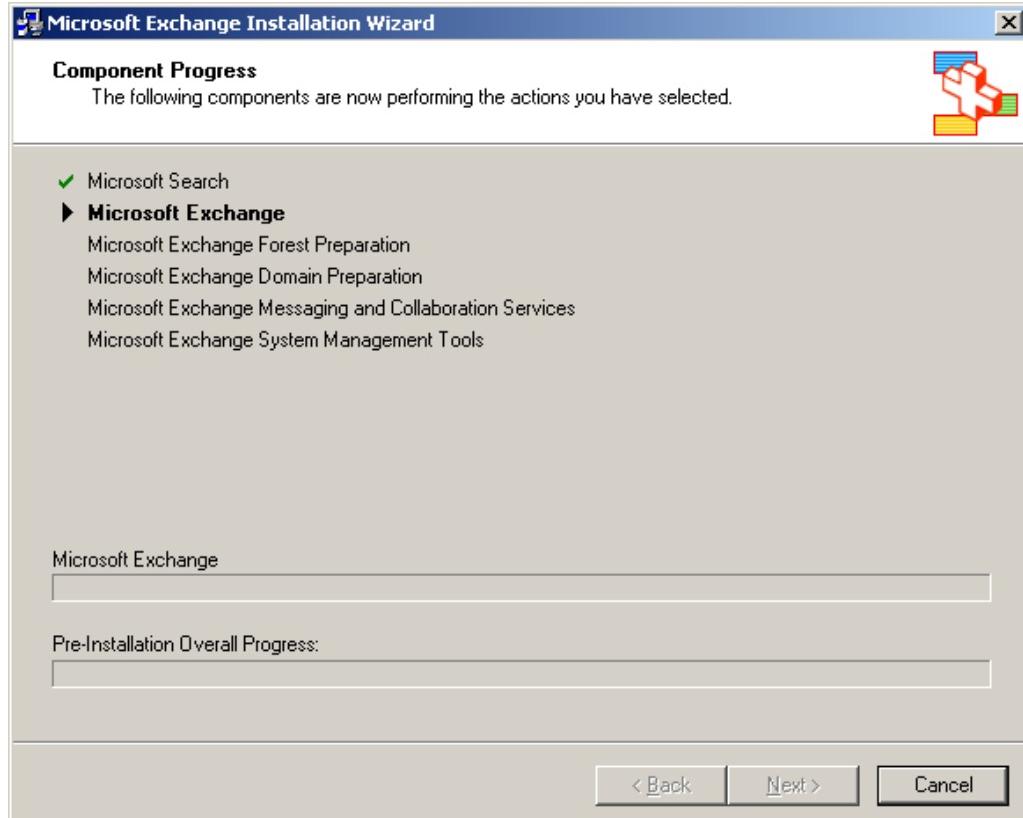
E2K3 Setup and ForestPrep

MSTP



E2K3 Setup and ForestPrep

MSTP



- Close to 1000 changes to the Schema occur during ForestPrep

E2K3 Setup and ForestPrep



MSTP

Microsoft Exchange Installation Wizard

Component Progress
The following components are now performing the actions you have selected.

EXPECTED OUTCOME

✓ Microsoft Search
✓ Microsoft Exchange
✓ Microsoft Exchange Forest Preparation
► **Microsoft Exchange Domain Preparation**
Microsoft Exchange Messaging and Collaboration Services

Microsoft Exchange Installation Wizard

! The domain "IIIMEF.USMC.MIL" has been identified as an insecure domain for mail-enabled groups with hidden DL membership. Hidden DL membership will be exposed to members of the built-in "Pre-Windows 2000 Compatible Access" security group. This group may have been populated during the promotion of the domain with the intent of allowing permissions to be compatible with pre-Windows 2000 servers and application. To secure the domain, remove any unnecessary members from this group.

OK

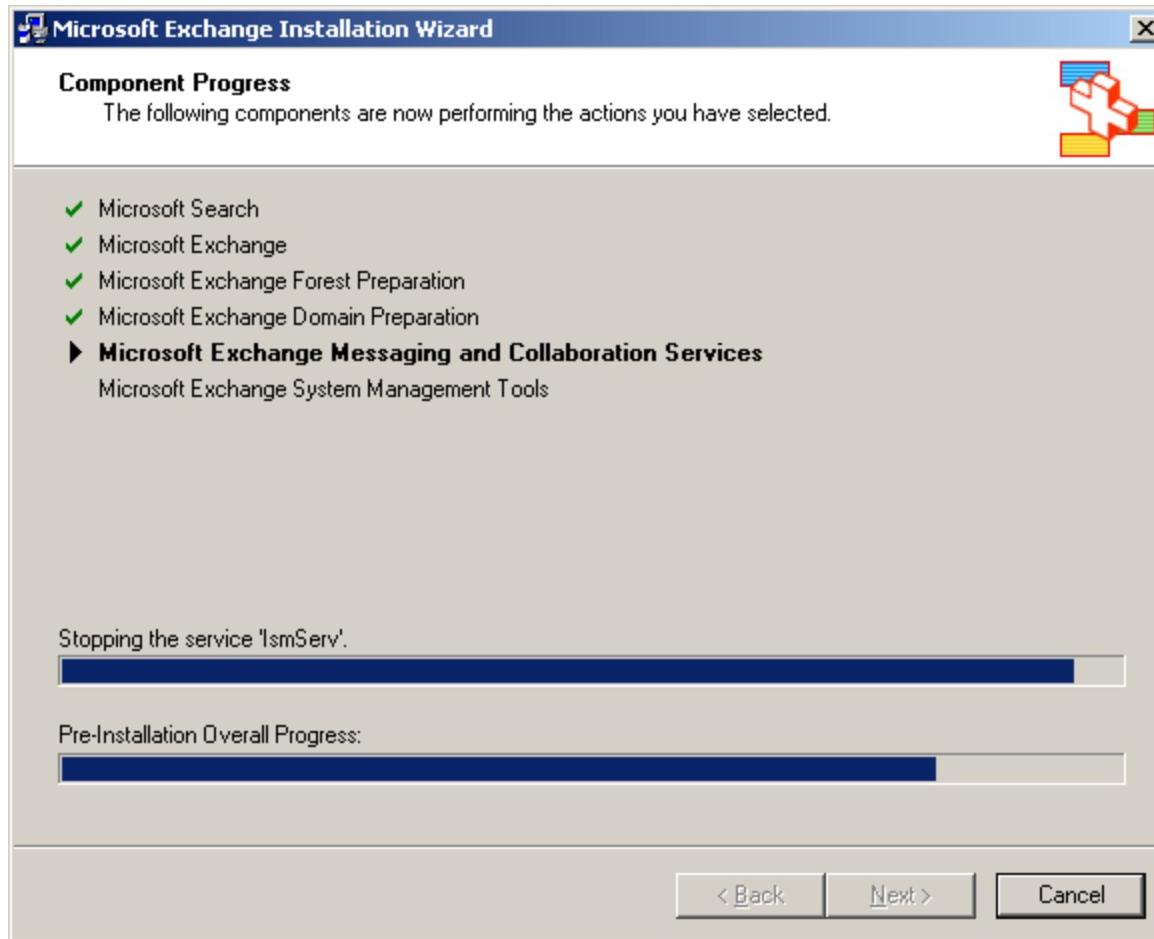
Pre-Installation Overall Progress:

< Back | Next > | Cancel

E2K3 Setup and ForestPrep



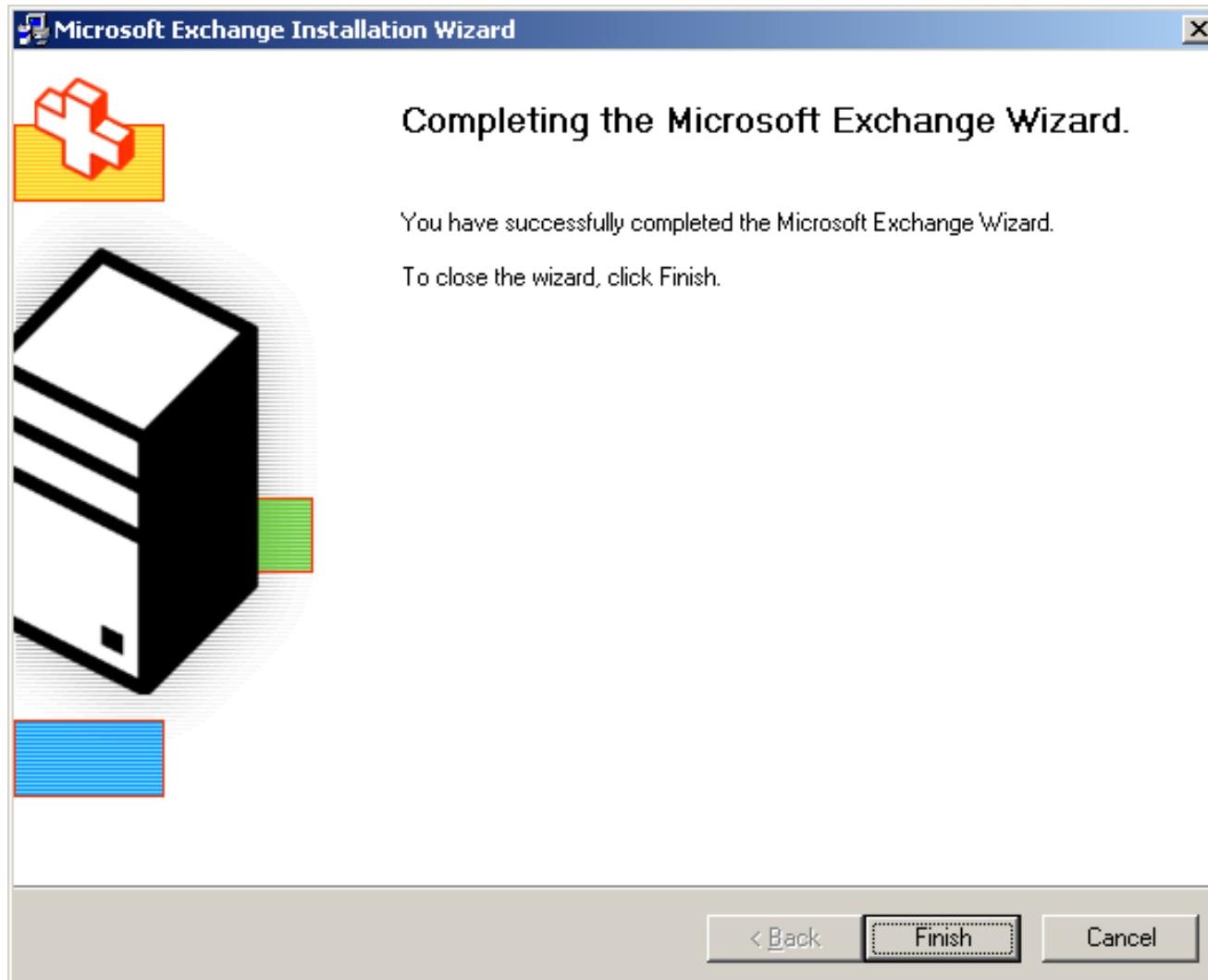
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E2K3 Setup and ForestPrep



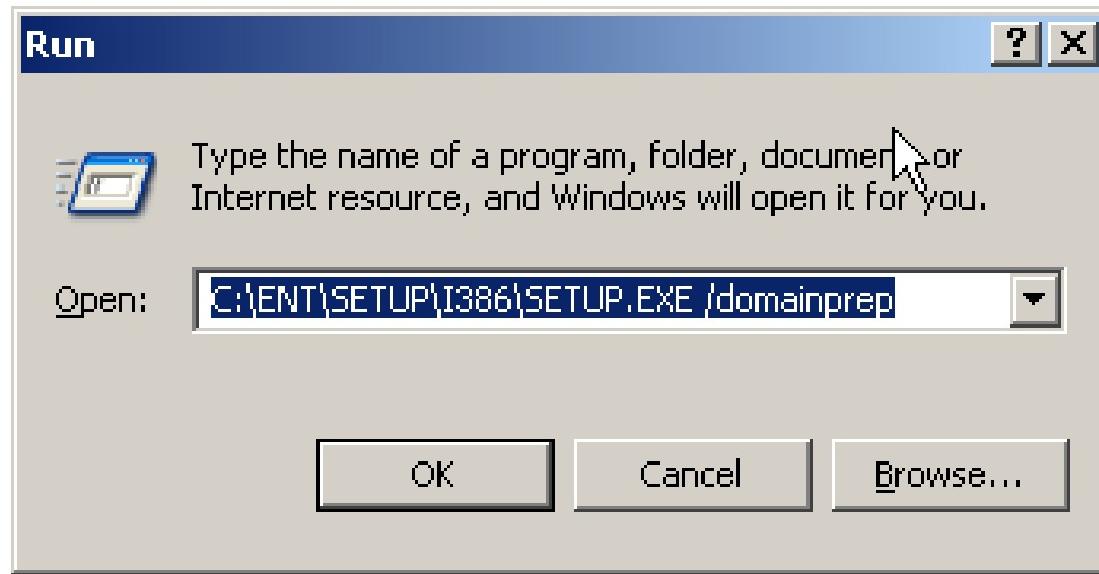
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E2K3 Setup and Domain Prep



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- Run Domain Prep on the server you plan to install Exchange 2003 logged in as a domain administrator

E2K3 Setup and Domain Prep



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E2K3 Setup and Domain Prep



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 Microsoft Exchange Installation Wizard

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E2K3 Setup and DomainPrep



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Microsoft Exchange Installation Wizard

Component Selection
Select and modify components to fit your custom solution.

Click in the left column to specify the appropriate action for each component.

Action	Component Name	Current	Drive
DomainPrep ▾	Microsoft Exchange	C:	▼
---	Microsoft Exchange Messaging and Collaboration Services		
---	Microsoft Exchange Connector for Lotus Notes		
---	Microsoft Exchange Connector for Novell GroupWise		
---	Microsoft Exchange Calendar Connector		
---	Microsoft Exchange System Management Tools		
---	Microsoft Exchange 5.5 Administrator		

Install Path: C:\Program Files\Exchsrvr [Change Path...](#)

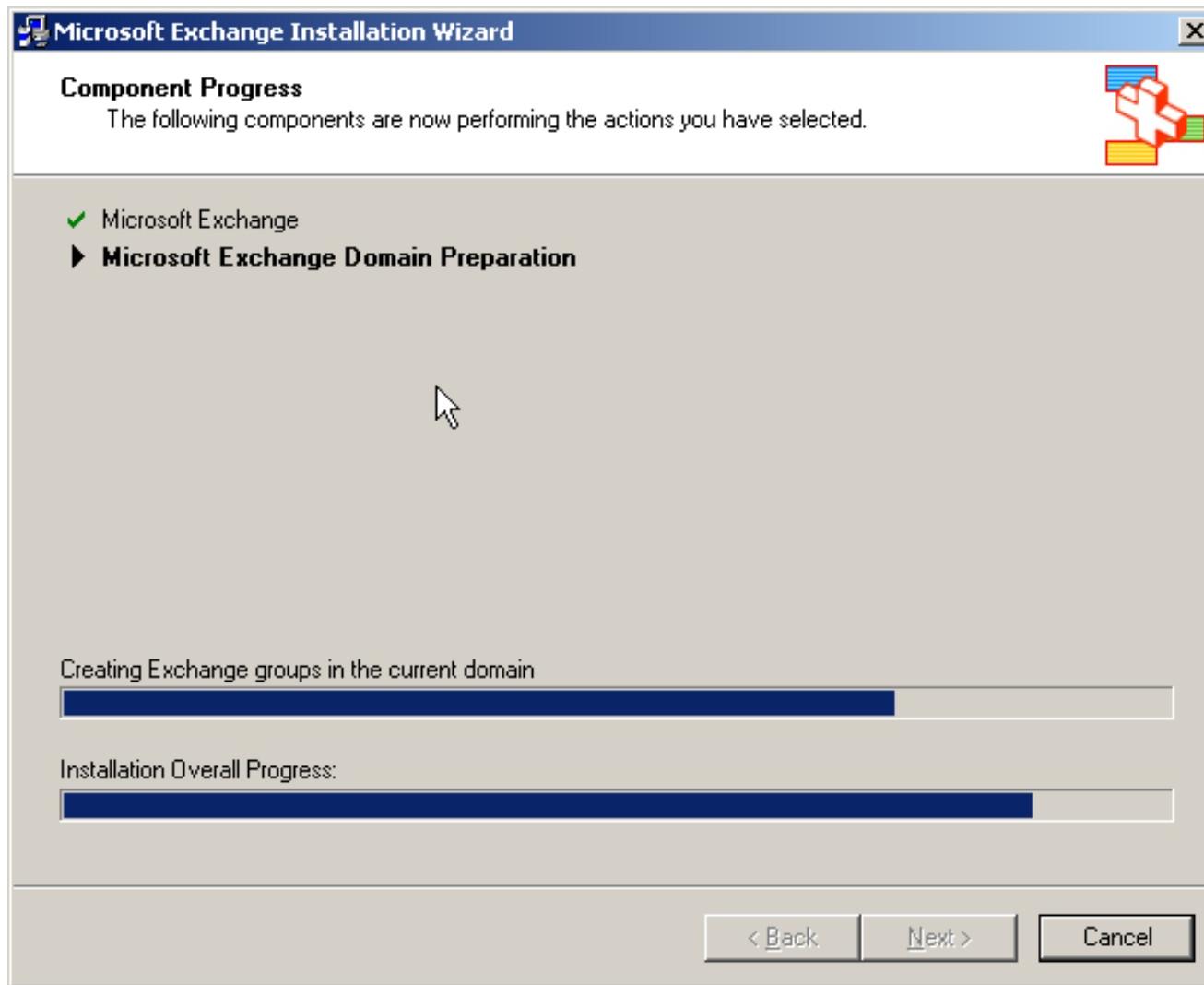
Drive C: 42 MB Requested [Disk Information](#) 5349 MB Remaining

[< Back](#) [Next >](#) [Cancel](#)

E2K3 Setup and Domain Prep



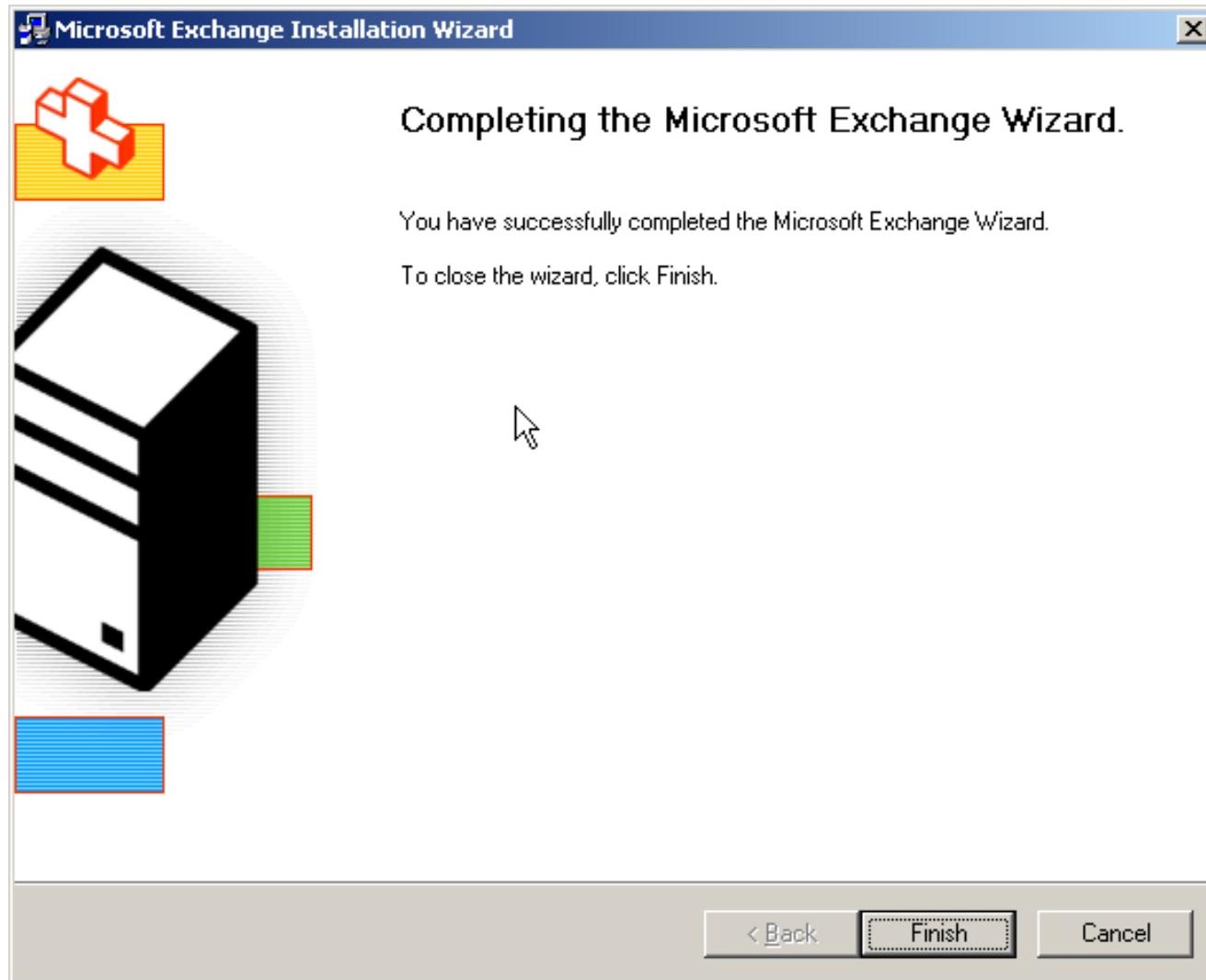
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E2K3 Setup and Domain Prep



MSTP



ForestPrep and DomainPrep

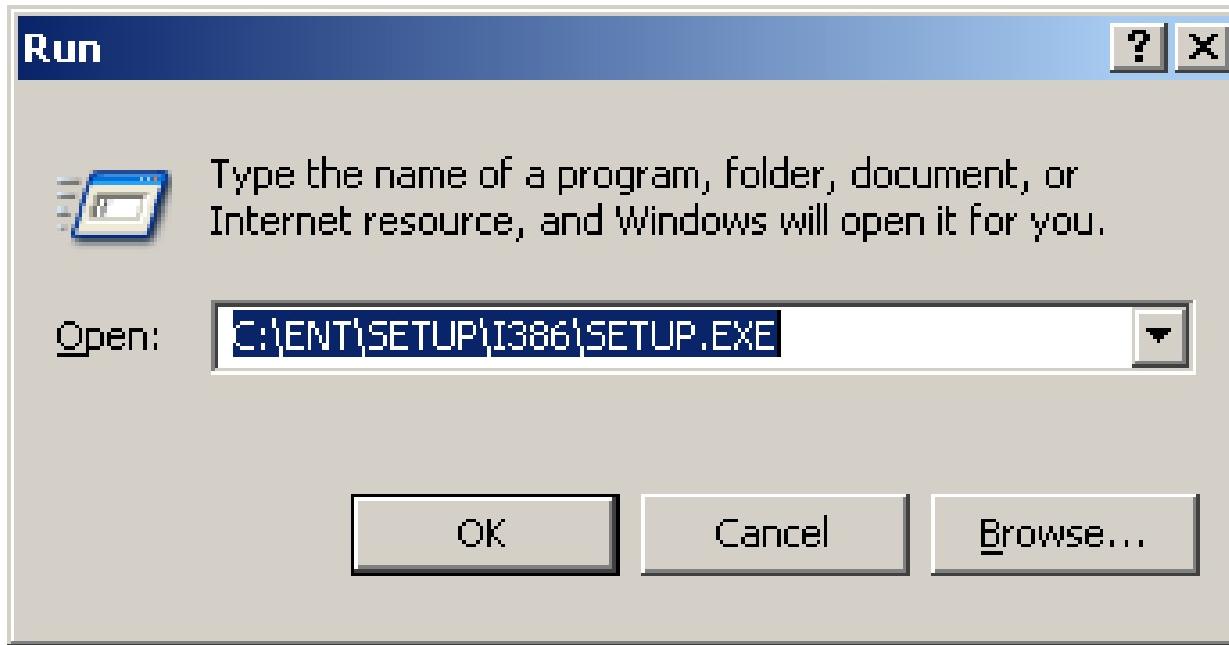
MSTP

- ForestPrep must be run before DomainPrep
- After ForestPrep/DomainPrep are completed you may install Exchange 2003 using a Local Admin account.

Exchange 2003 Installation

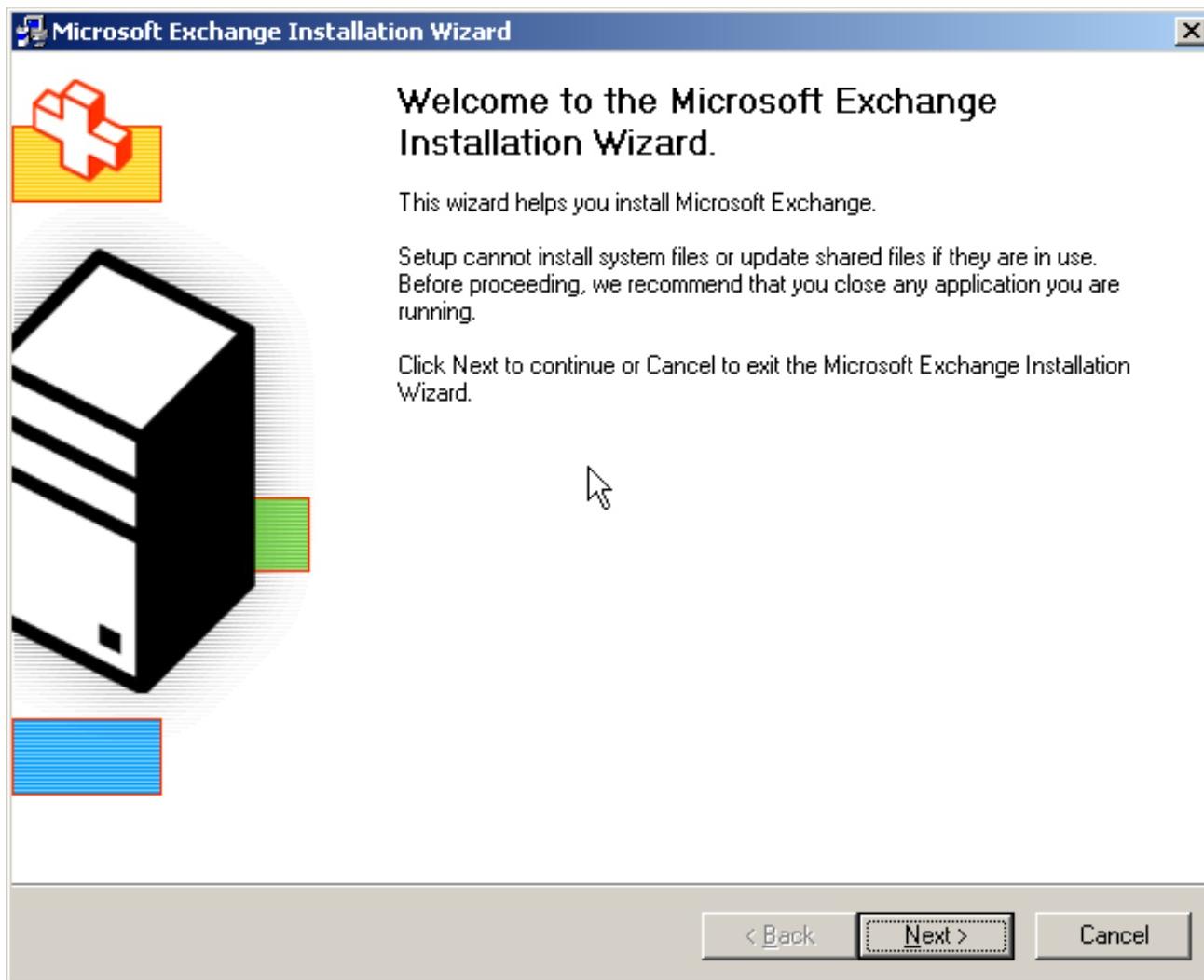


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Exchange 2003 Installation

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Exchange 2003 Installation



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Microsoft Exchange Installation Wizard

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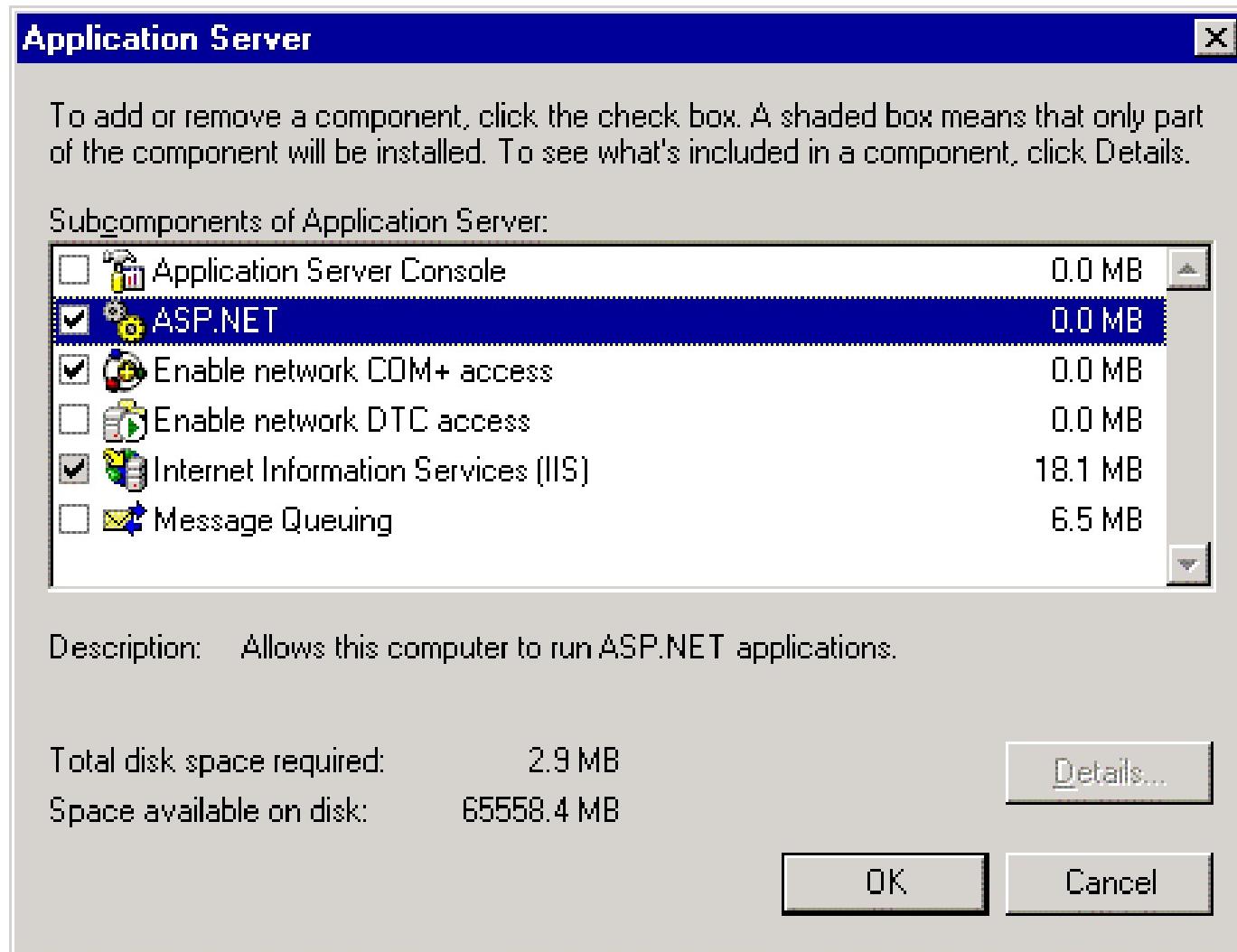
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Services in Windows Server 2003

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Exchange 2003 Post-Installation



MSTP

- Post Installation Activities:
 - Check out Exchange server's Windows program group
 - Verify that all Exchange Server Services are Running
 - Set up a MMC on your Exchange Server
 - Active Directory Users and Computers
 - Exchange Site Manager
 - Computer Management
 - Event Viewer

Exchange 2003 Post-Installation



MSTP

- Grant permission for Exchange Administration group to Manage Exchange Server
 - Click Users and Groups and find Exchange Admins Group
 - Roles on drop-down:
 - Exchange View Only Administrator
 - Exchange Administrator
 - Exchange Full Administrator

BREAK



MSTP



Exchange Connectors

MSTP

- Routing Group Connectors
- Active Directory Connector
- SMTP Connector
- X.400 Connector
- Schedule +Free/Busy Connector

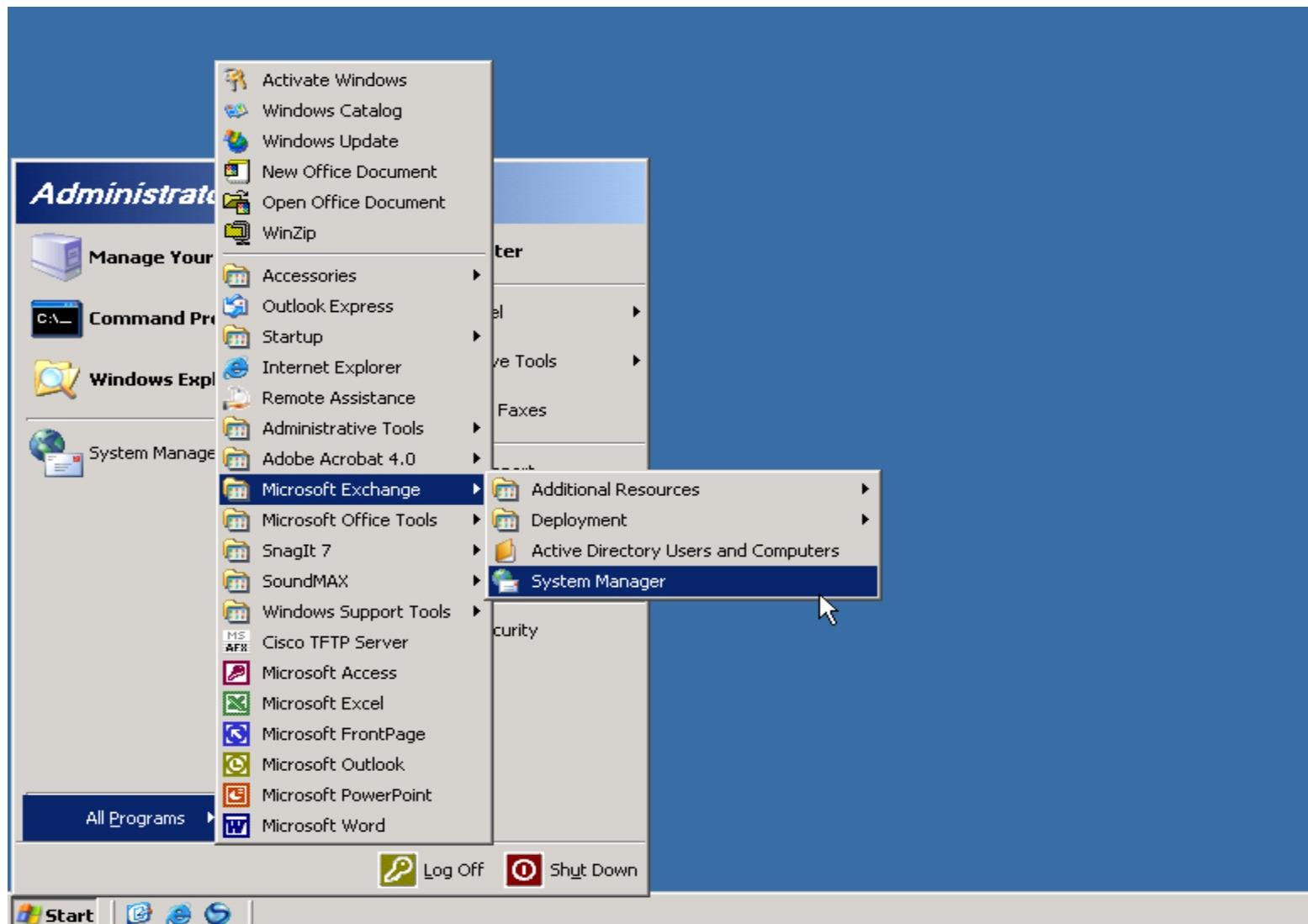


Routing Group Connector

MSTP

- Microsoft preferred connector for linking Exchange 2003 Server routing groups
- Benefits include:
 - Easy configuration
 - Support for multiple (redundant) links between the same two routing groups
- Uses SMTP preserves its native communication mode in E2K3

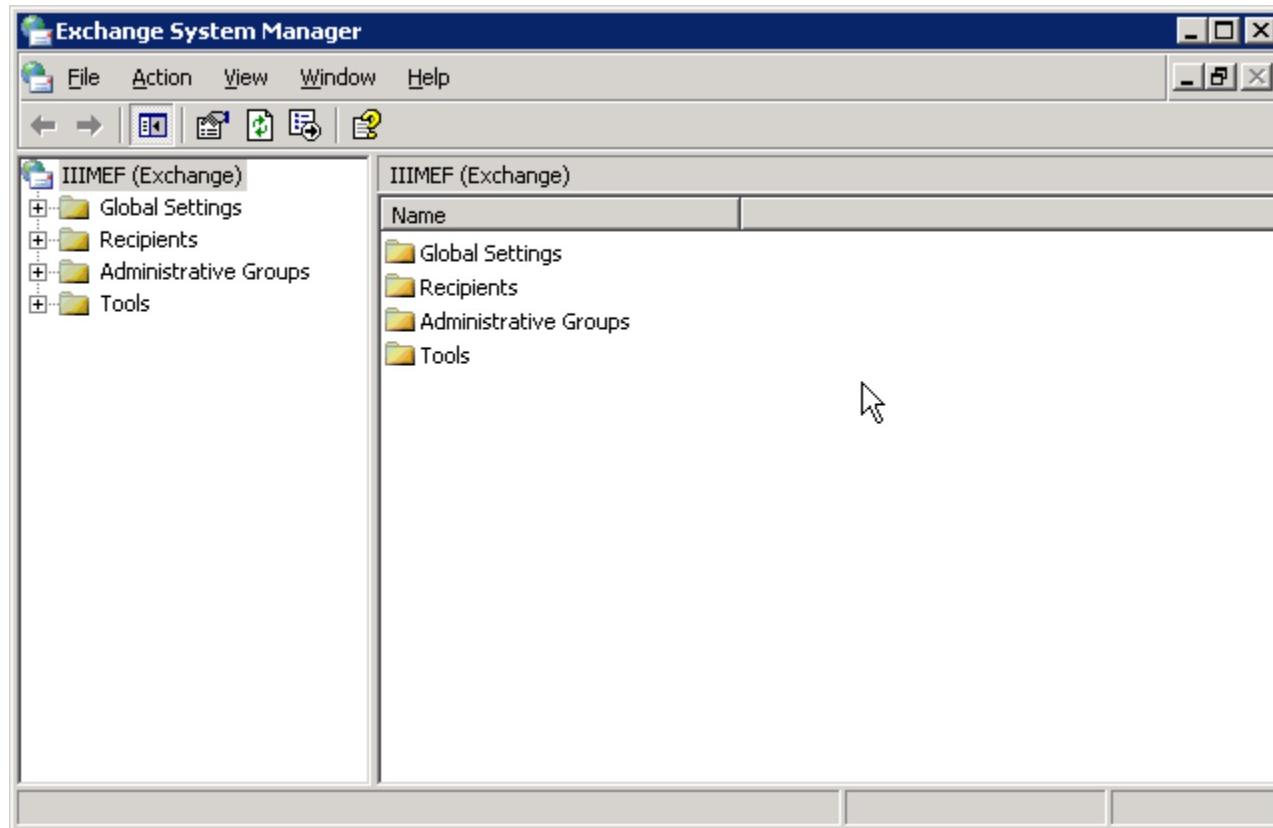
Creating Routing Groups



Creating Routing Groups



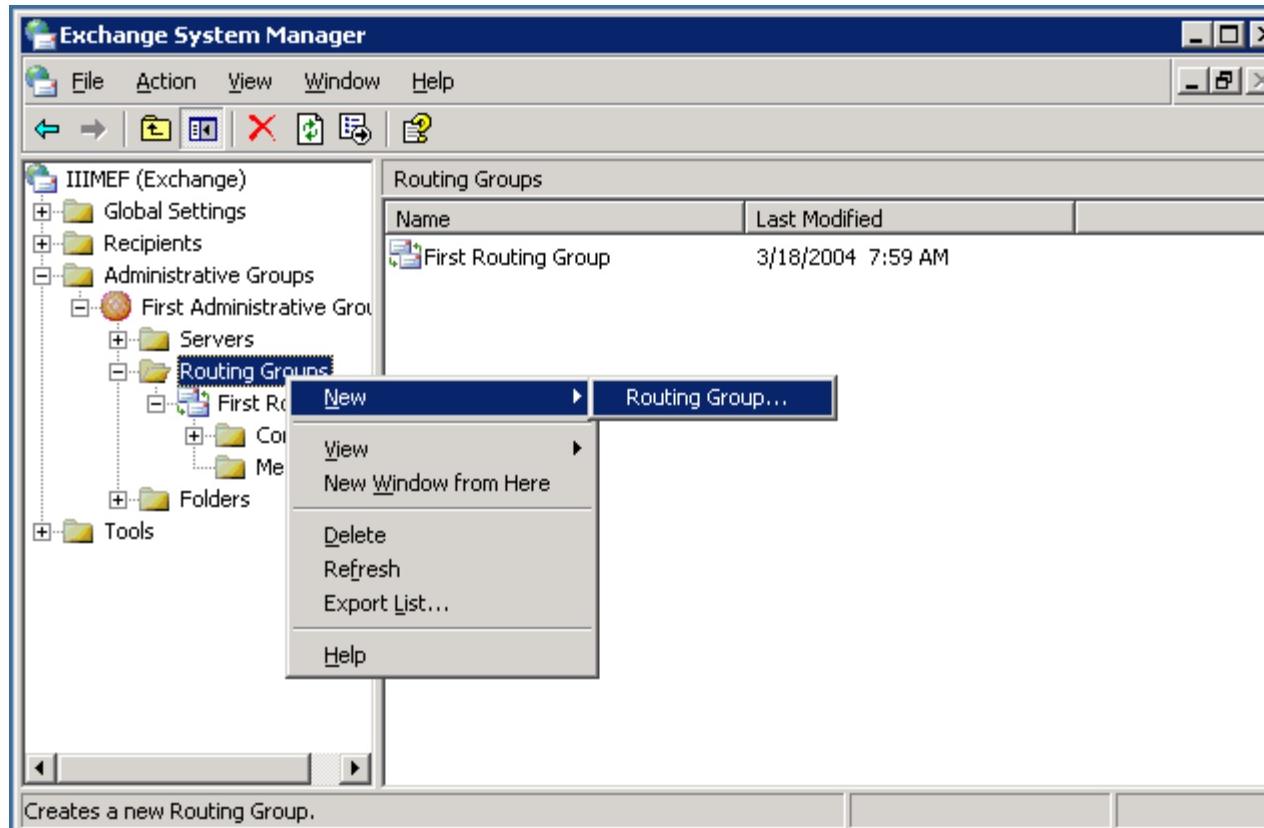
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Creating Routing Groups



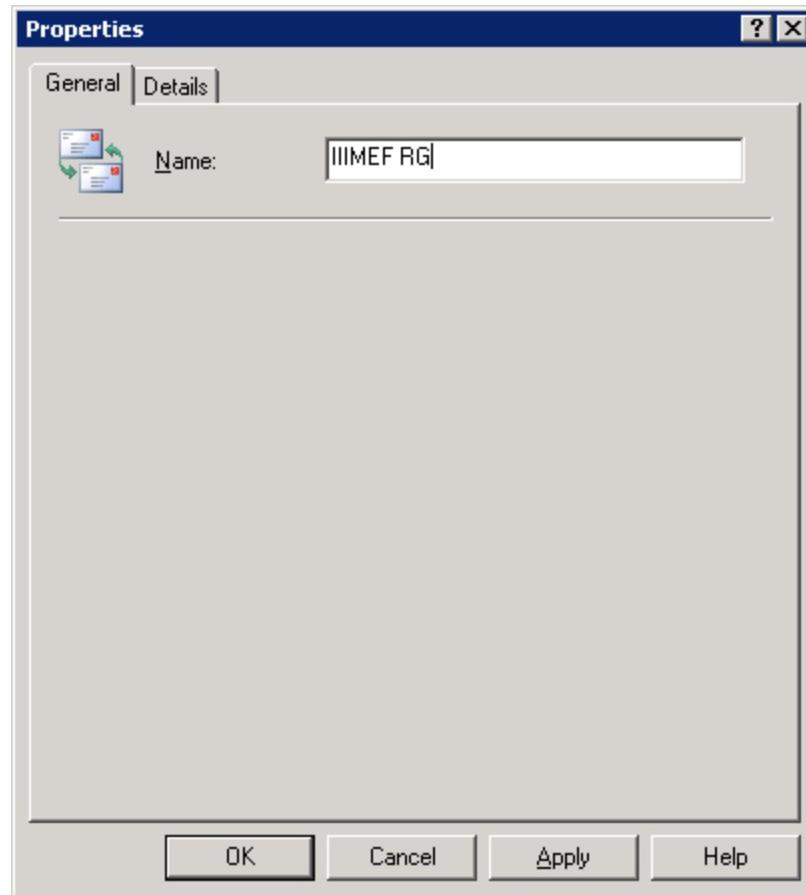
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Creating Routing Groups



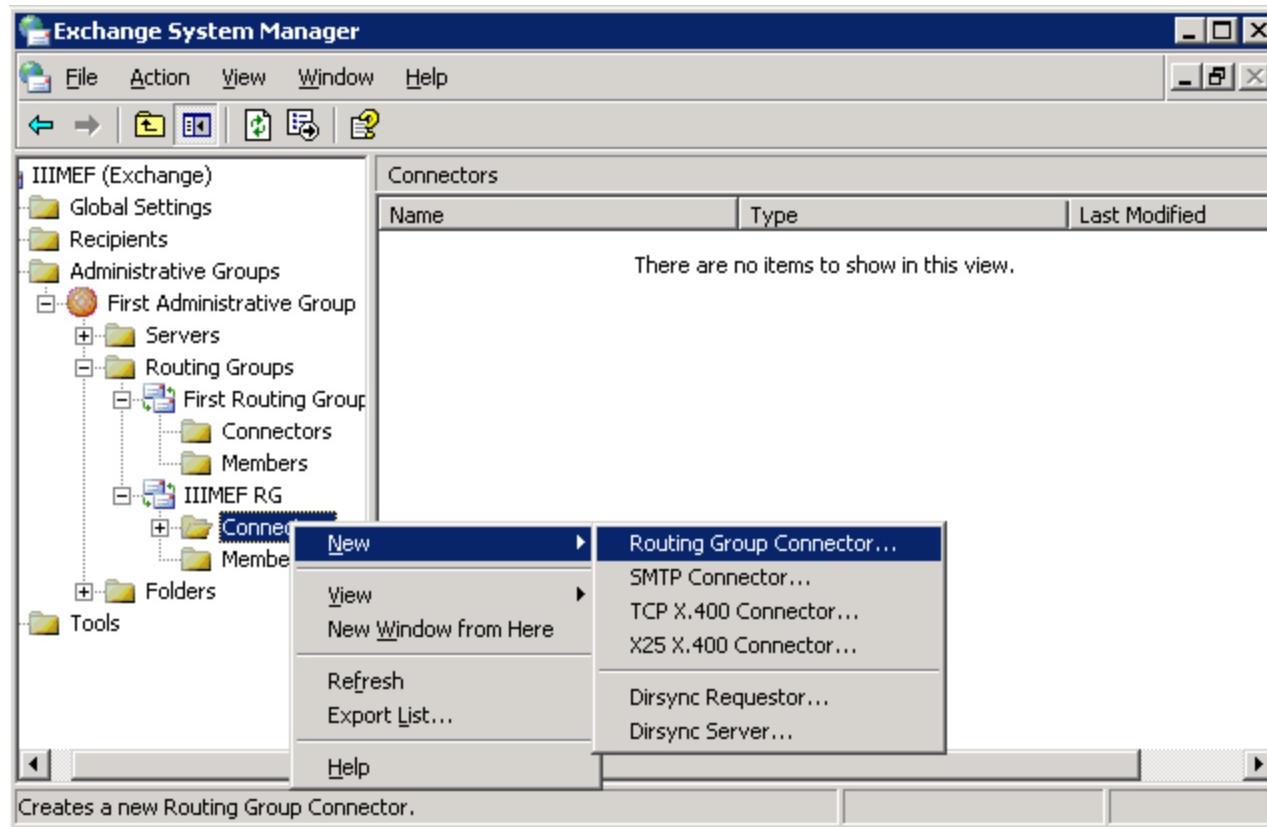
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Creating Routing Groups



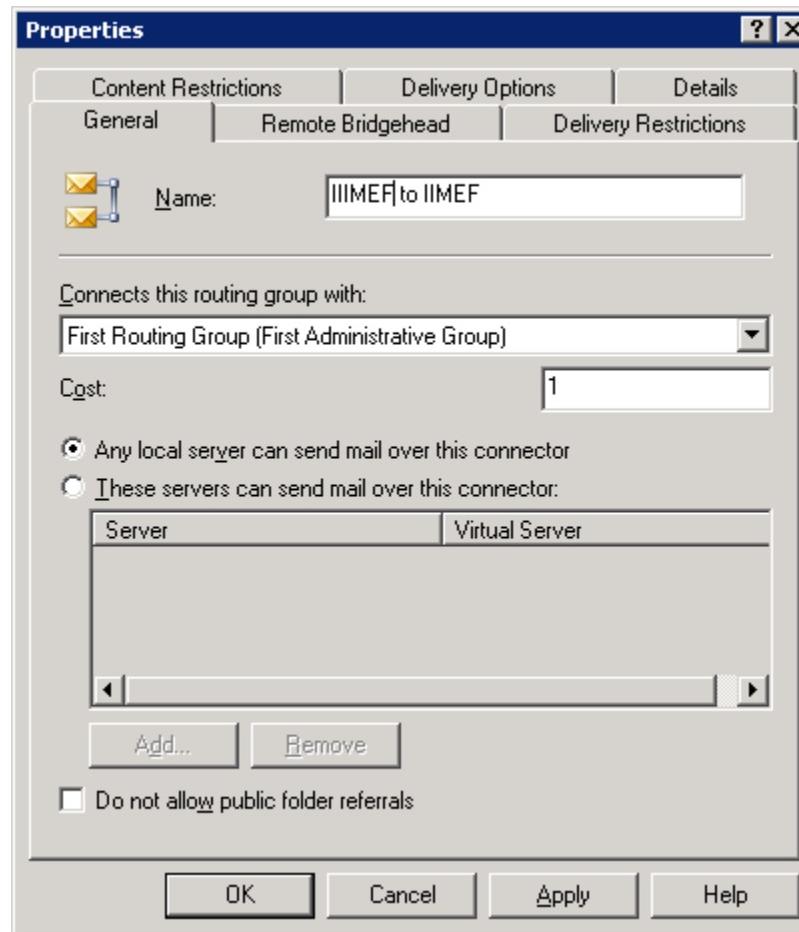
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Creating Routing Groups



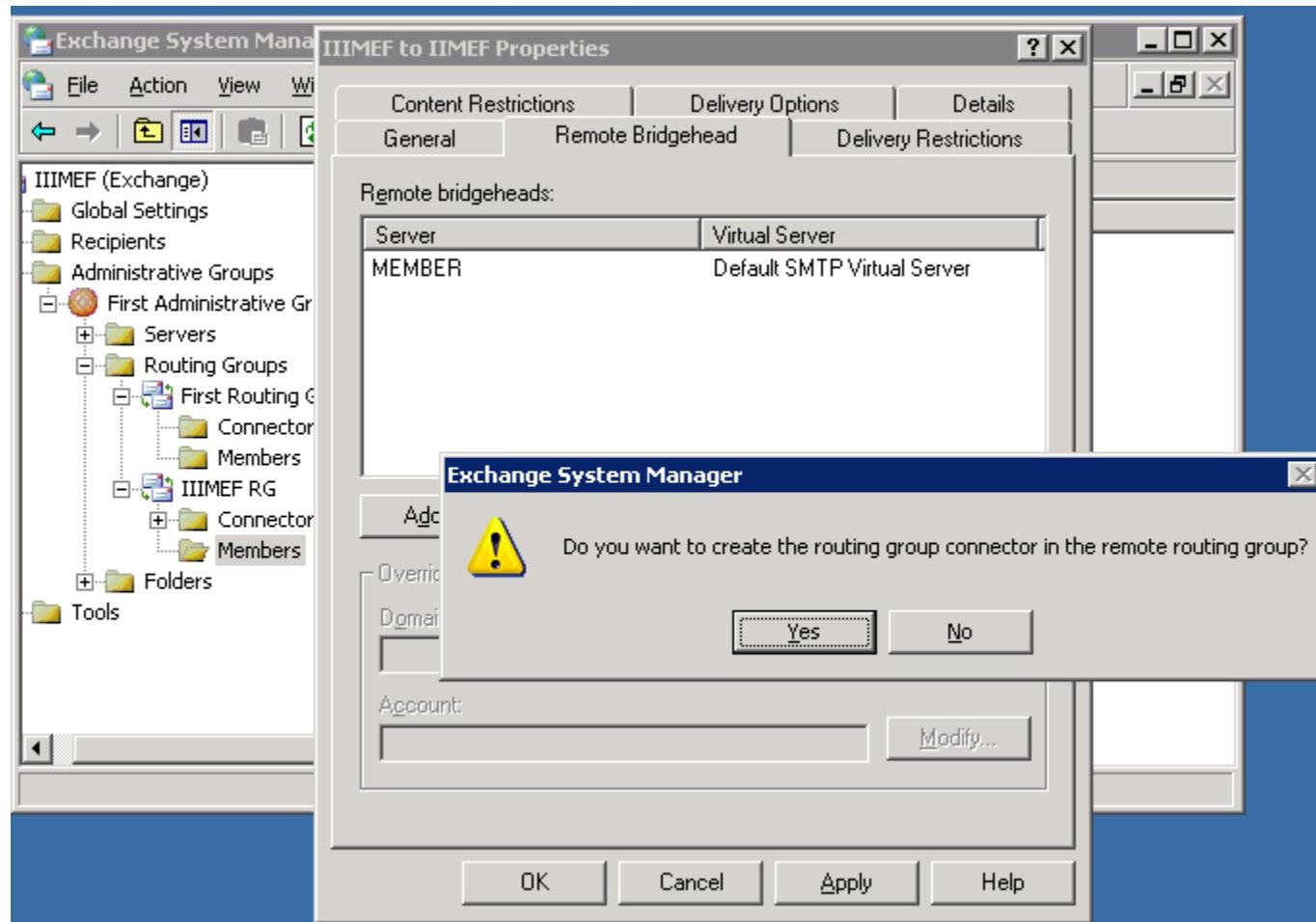
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Creating Routing Groups



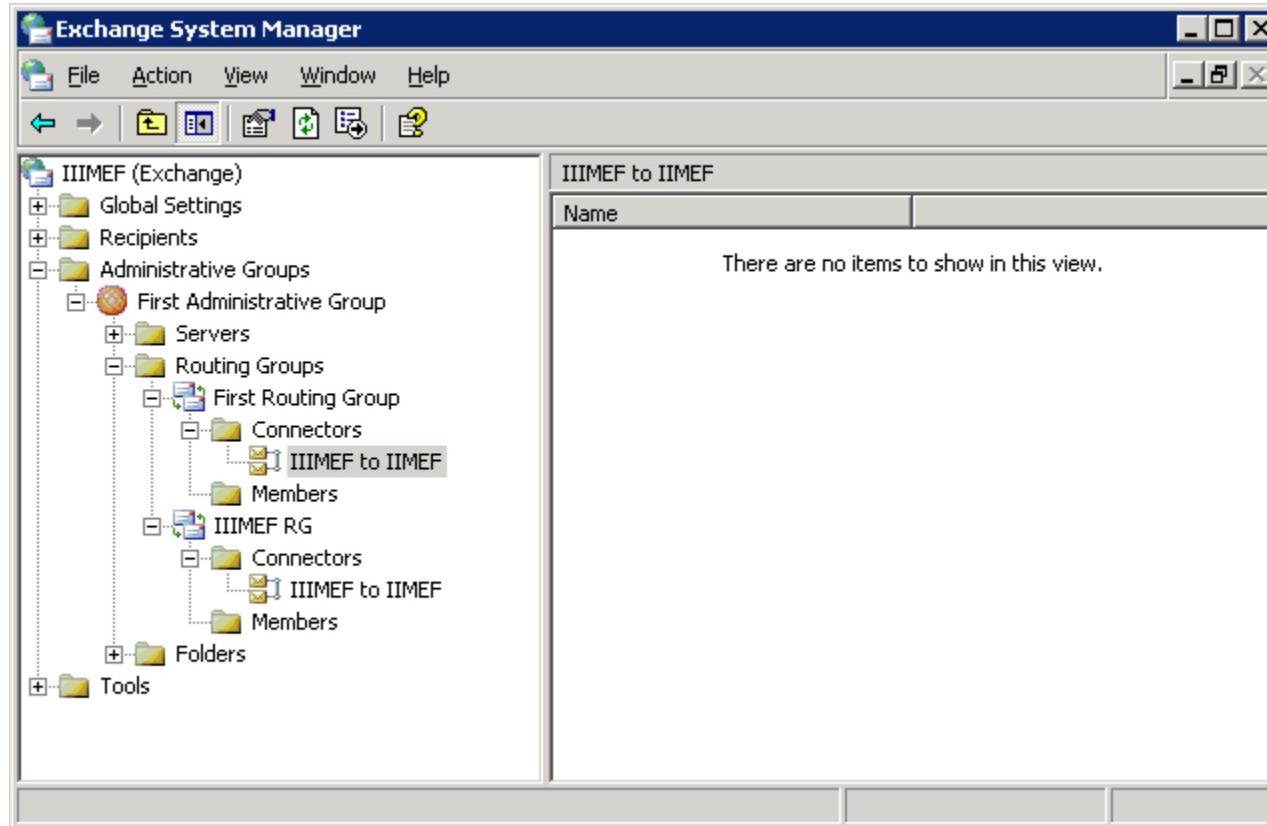
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Creating Routing Groups



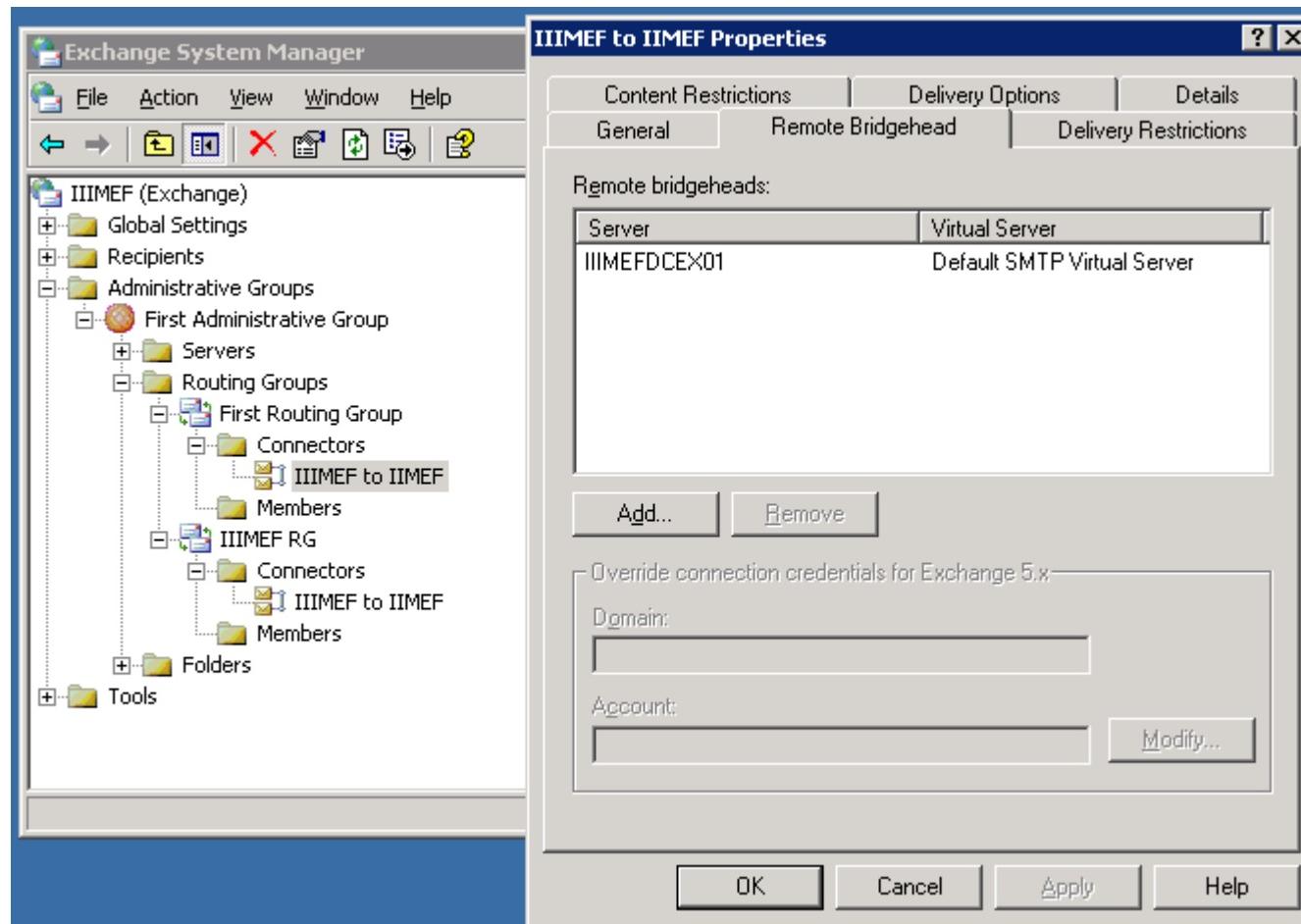
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Creating Routing Groups



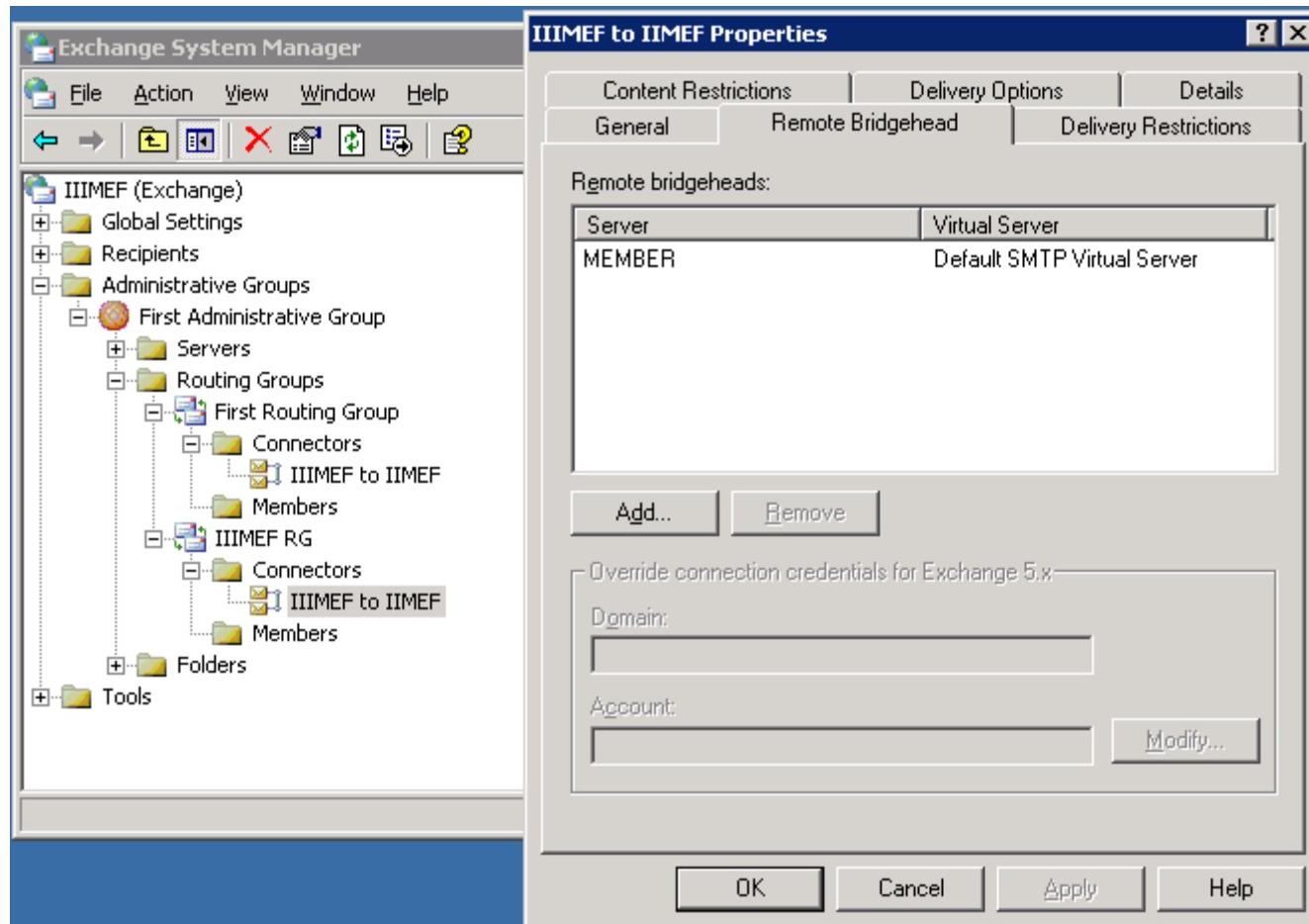
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Creating Routing Groups



MSTP





SMTP Connectors

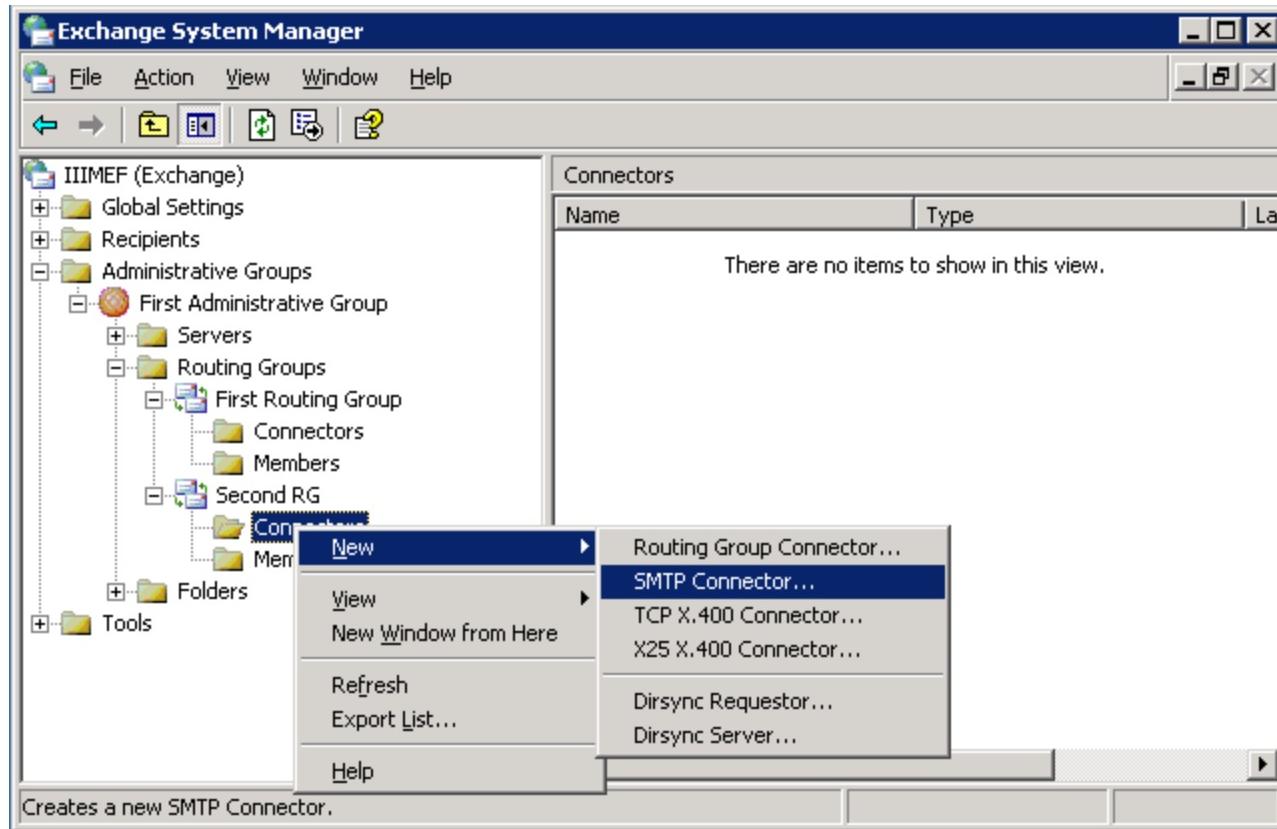
MSTP

- Windows 2003 (IIS 6.0) SMTP service handles internet messaging
- Exchange 2003 SMTP connector is used to enhance internet messaging
 - Supports dialup connections

Setting up SMTP Connectors



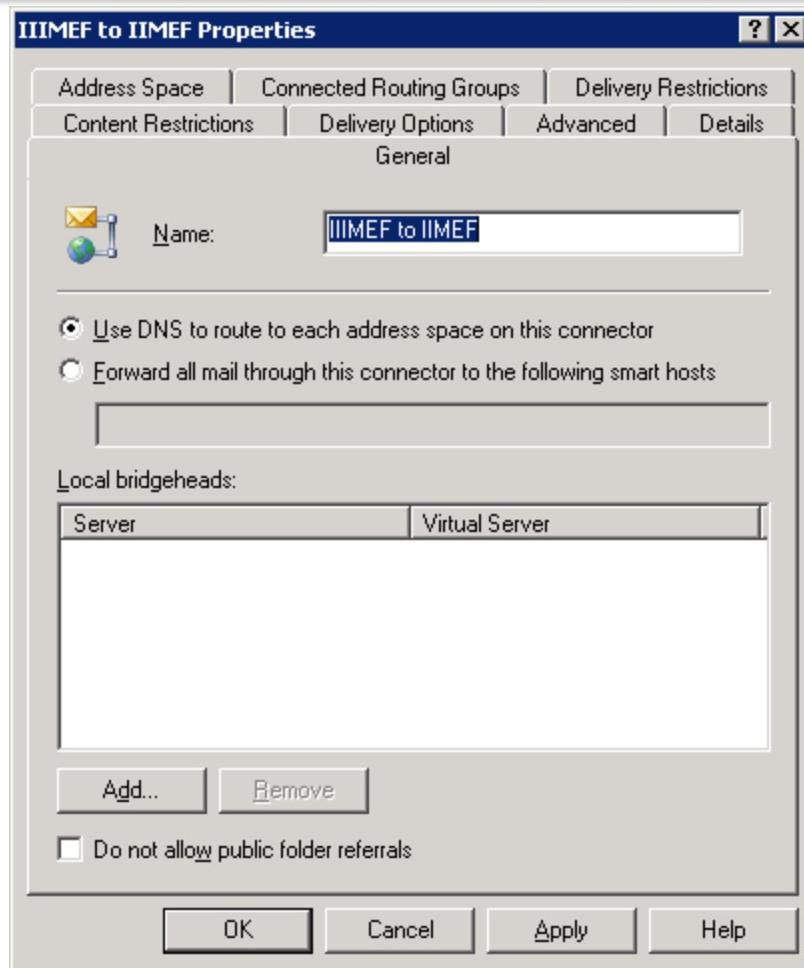
MSTP



Setting up SMTP Connectors



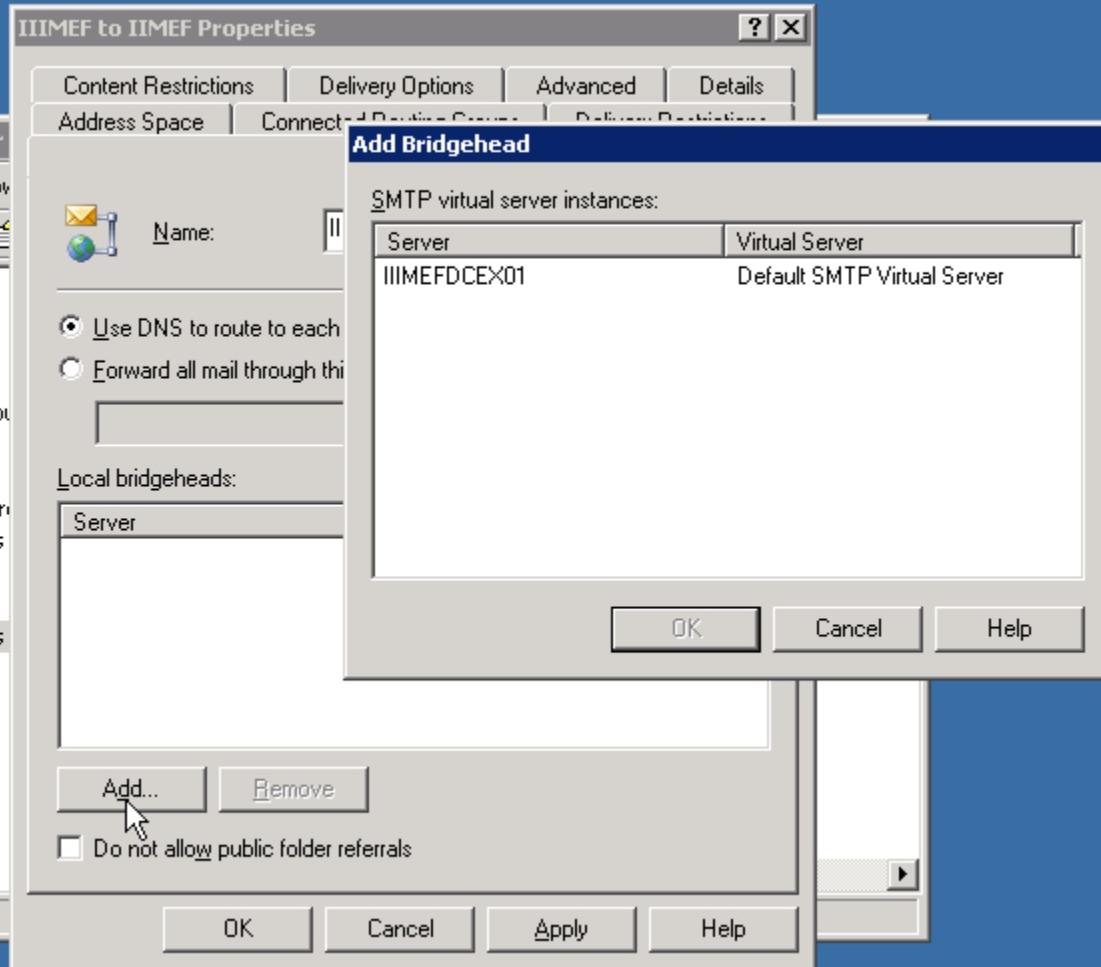
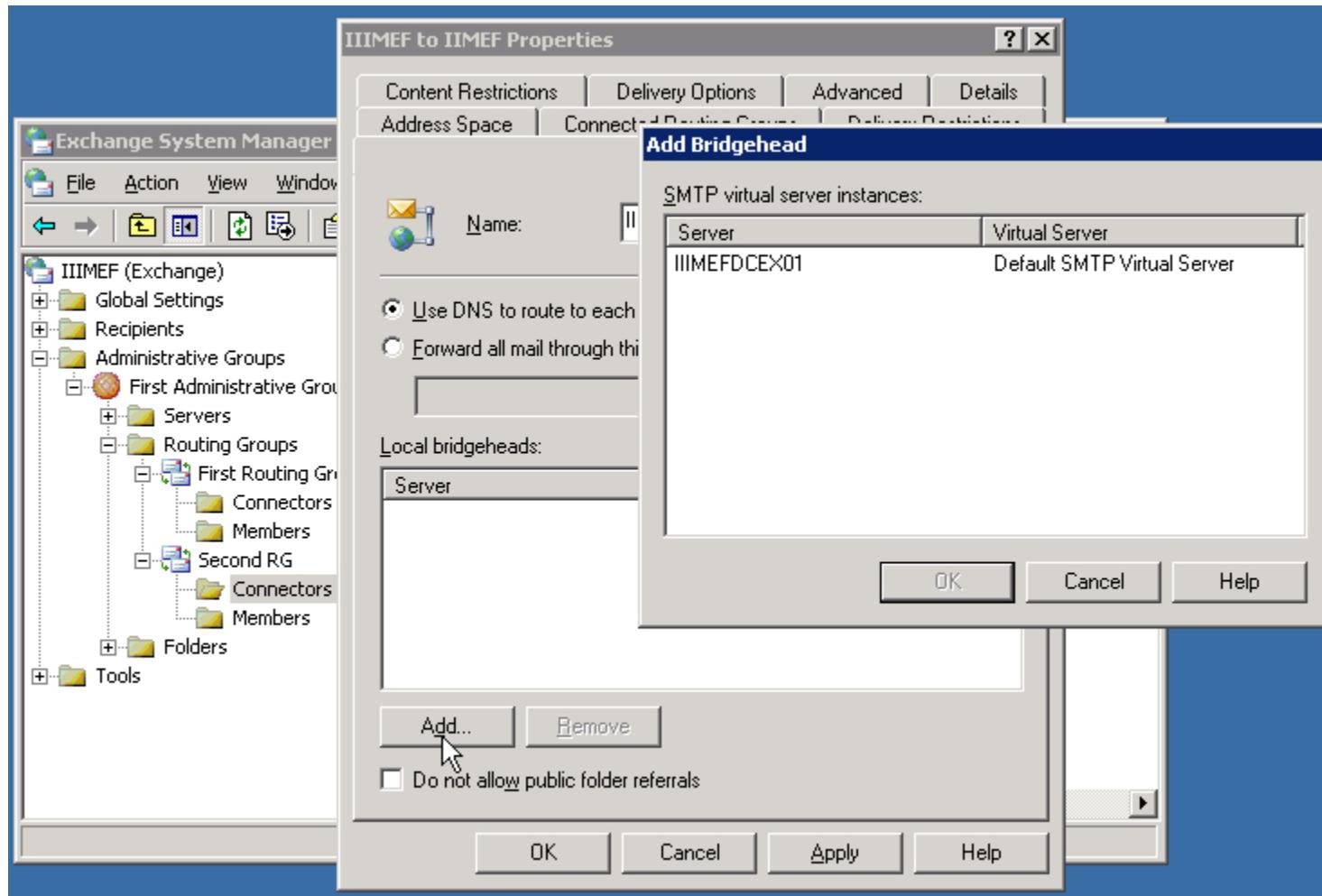
MSTP



Setting up SMTP Connectors



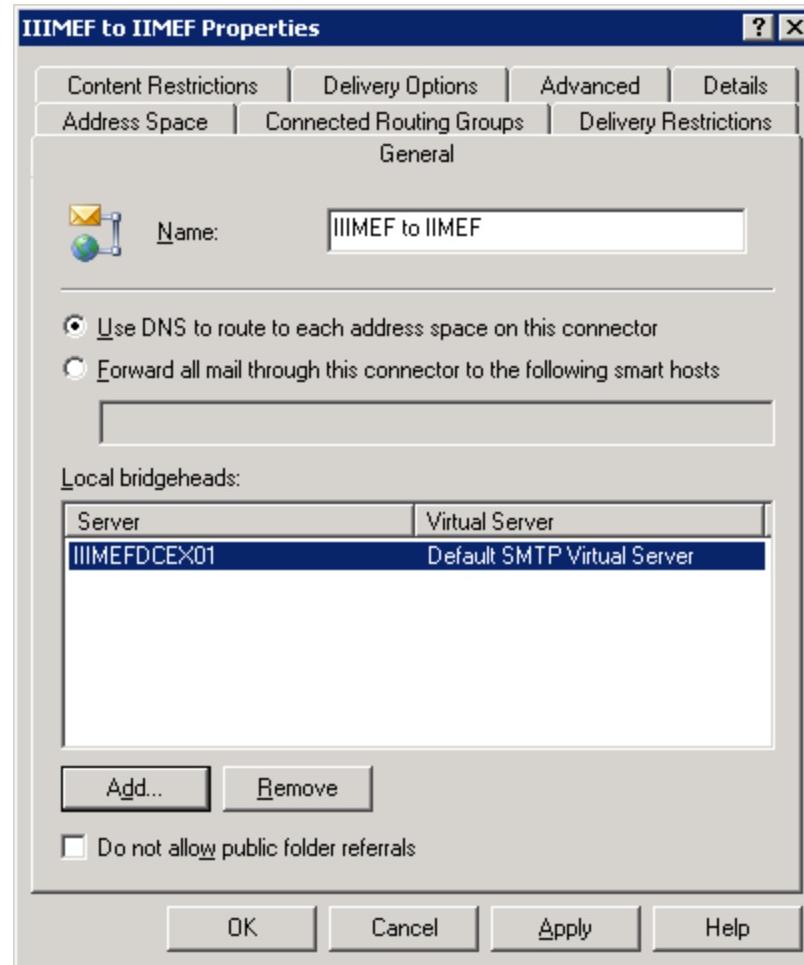
MSTP



Setting up SMTP Connectors



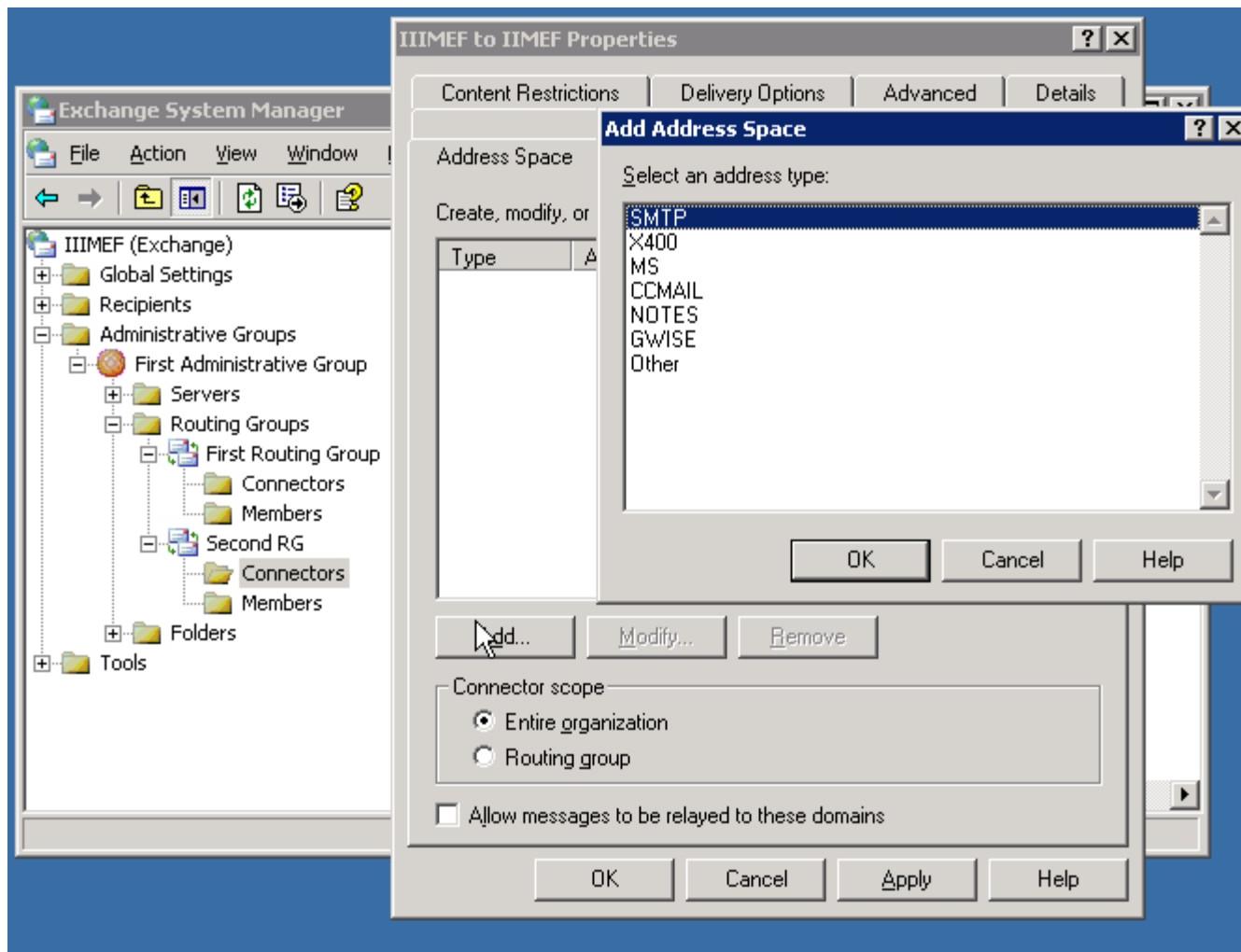
MSTP



Setting up SMTP Connectors

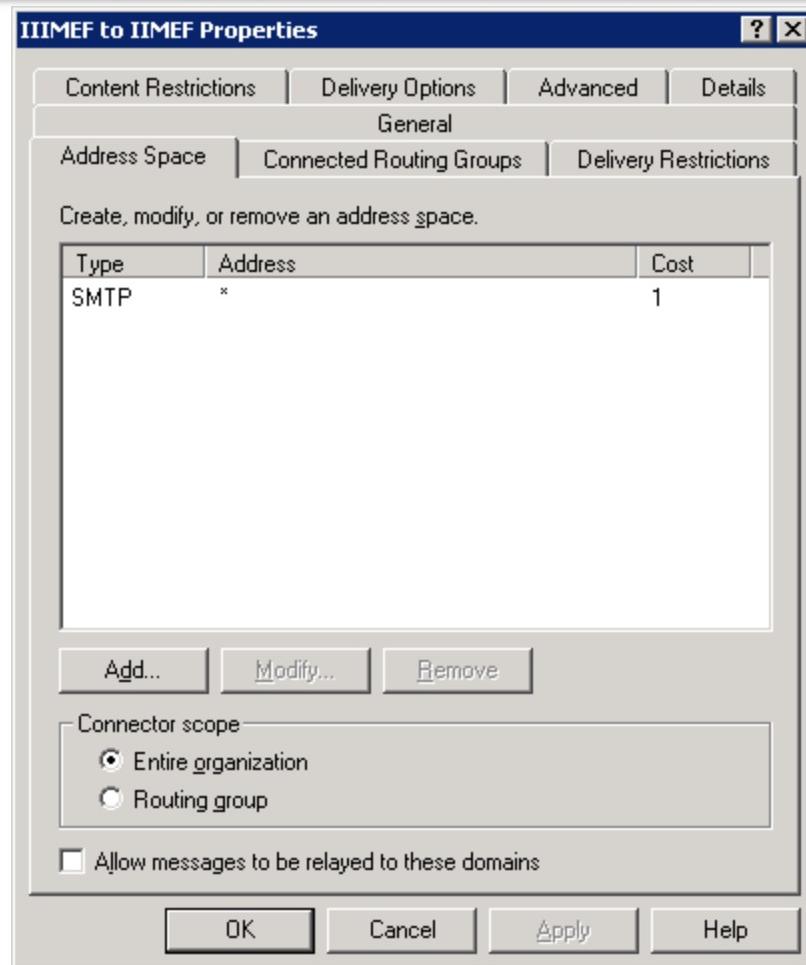


MSTP



Setting up SMTP Connectors

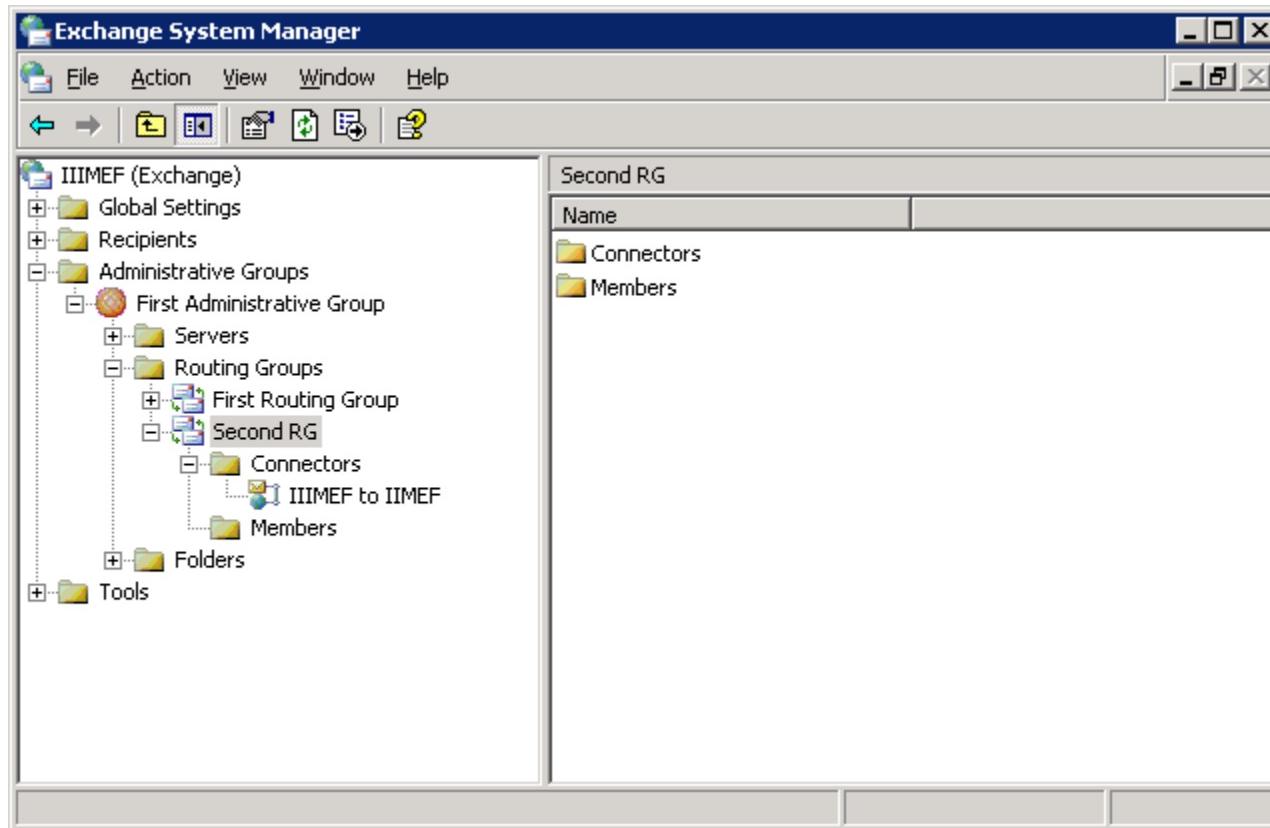
MSTP



Setting up SMTP Connectors



MSTP



Second RG

Name

- Connectors
- Members

X.400 Connector

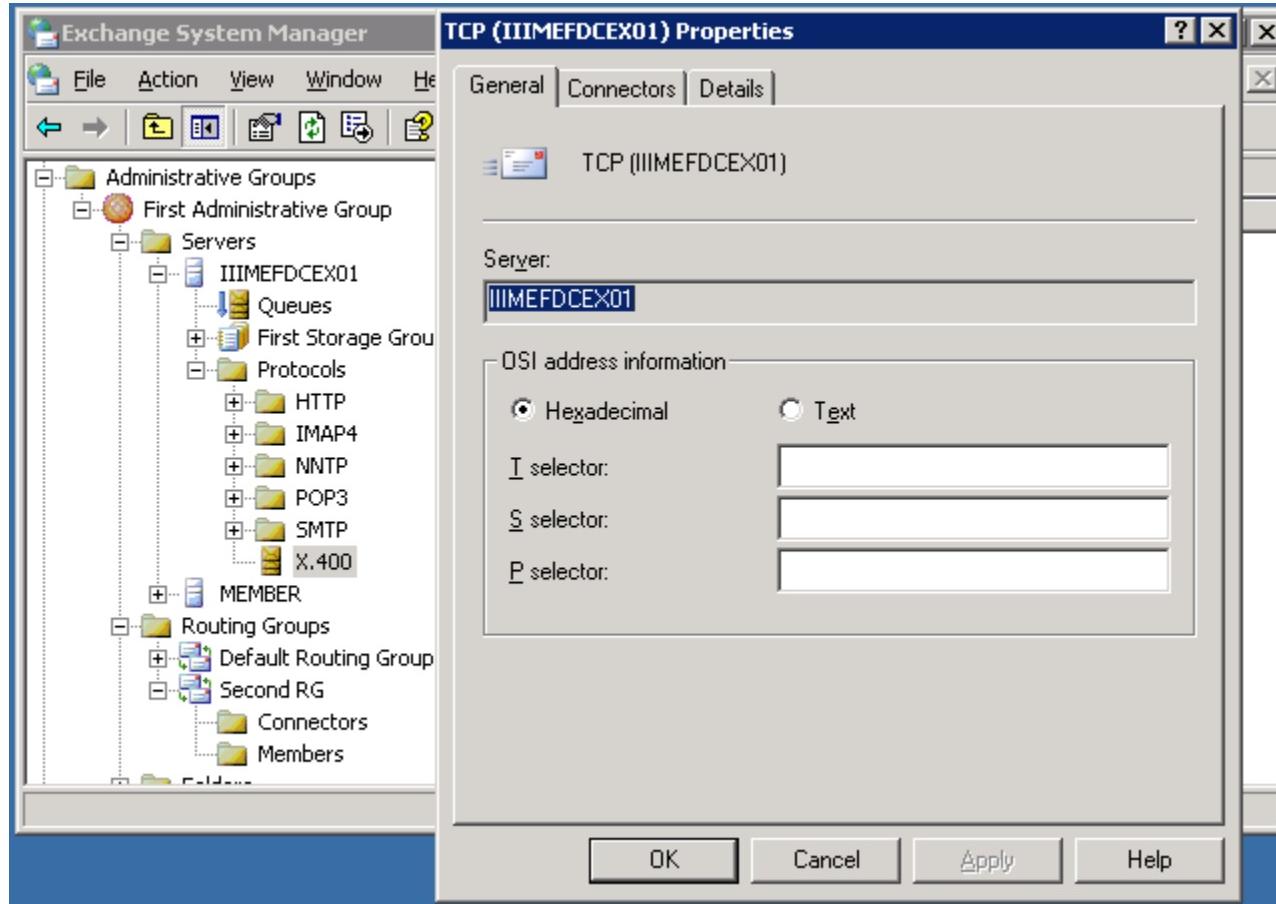
MSTP

- Used to link Exchange servers to foreign X.400 systems
- X.400 connector can ride on top of TCP/IP, MS RAS or X.25 networking services
- Also may be used to link Exchange routing groups

TCP X.400 Connector

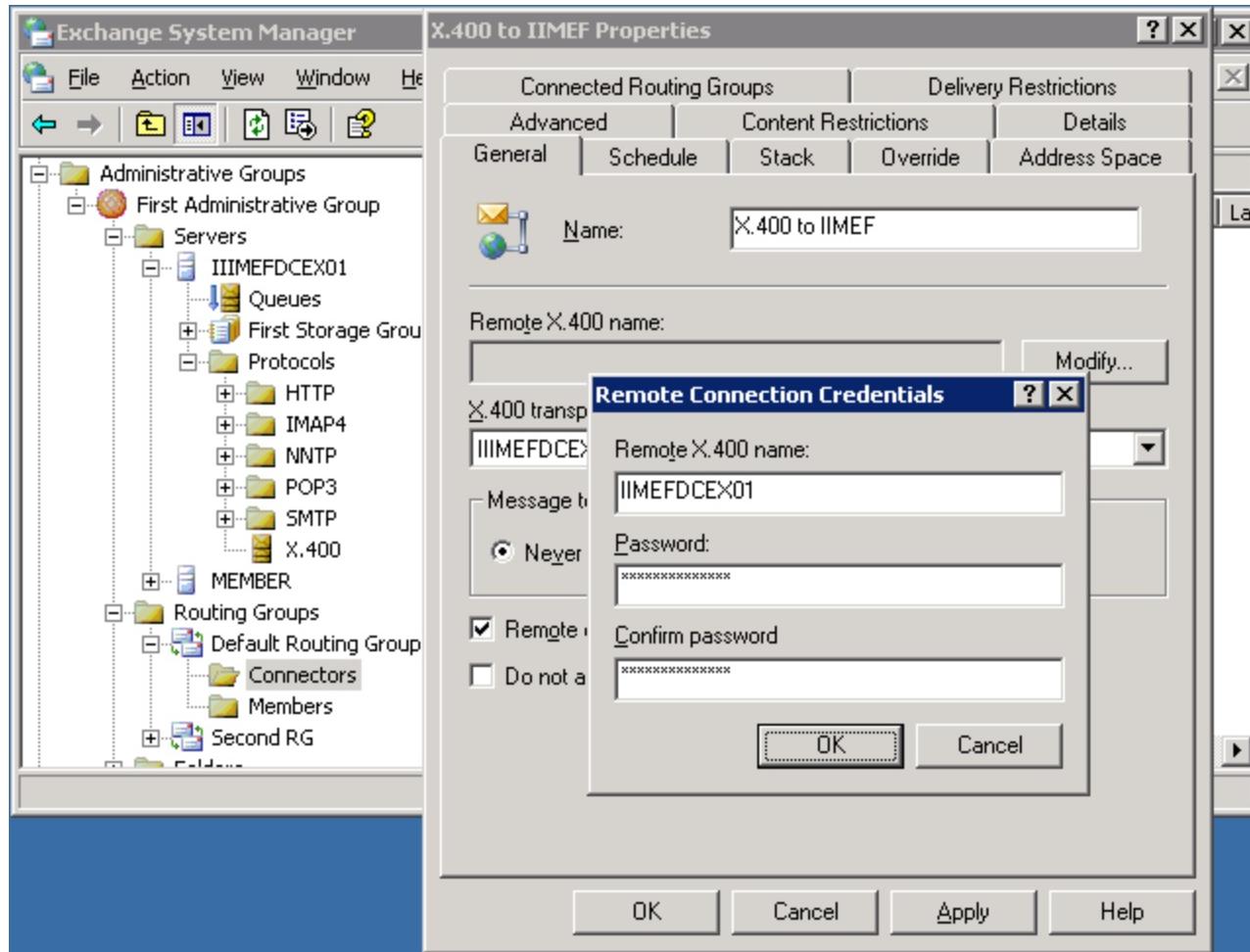


MSTP



TCP X.400 Connector

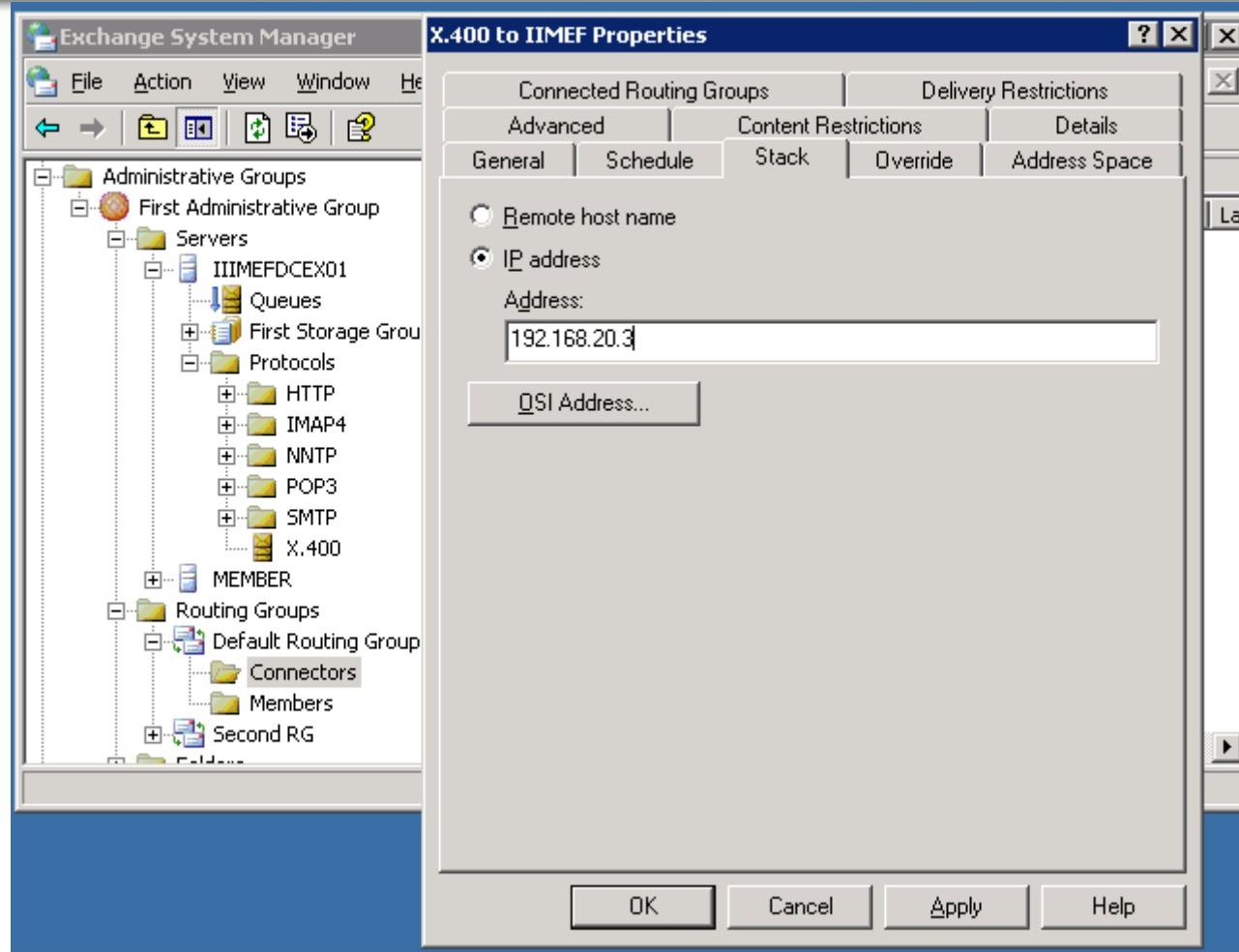
MSTP



TCP X.400 Connector

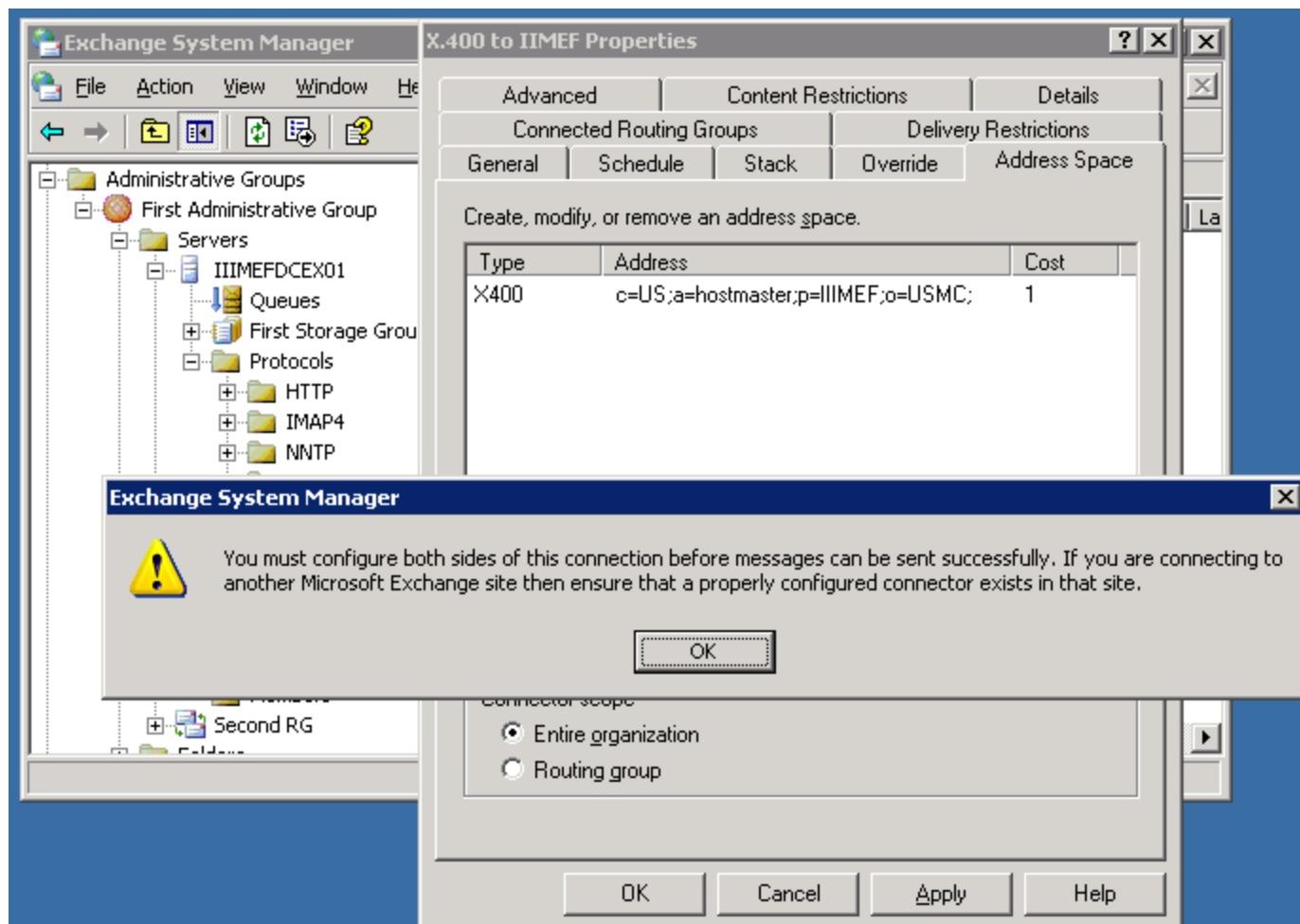


MSTP



TCP X.400 Connector

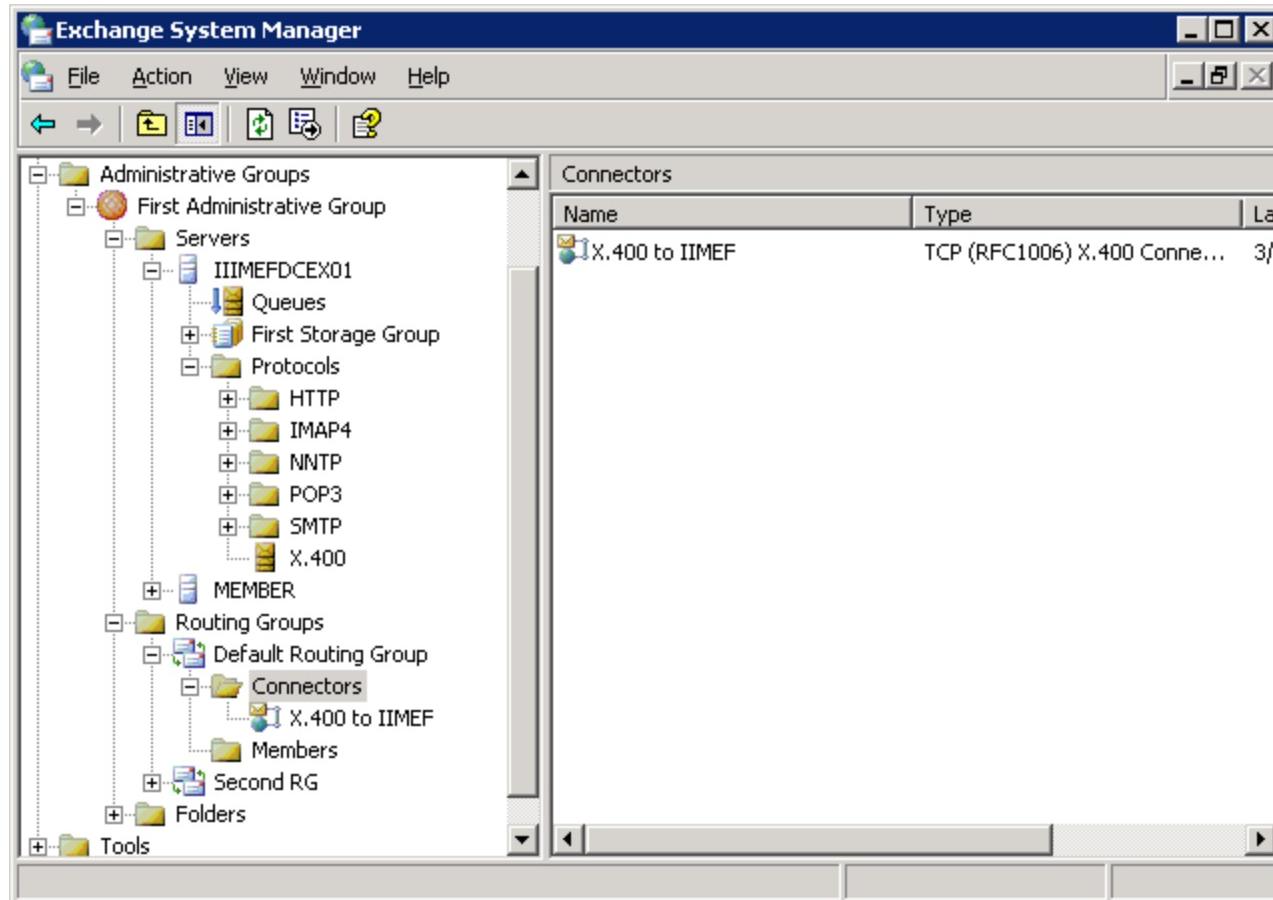
MSTP



TCP X.400 Connector



MSTP



Active Directory Connector

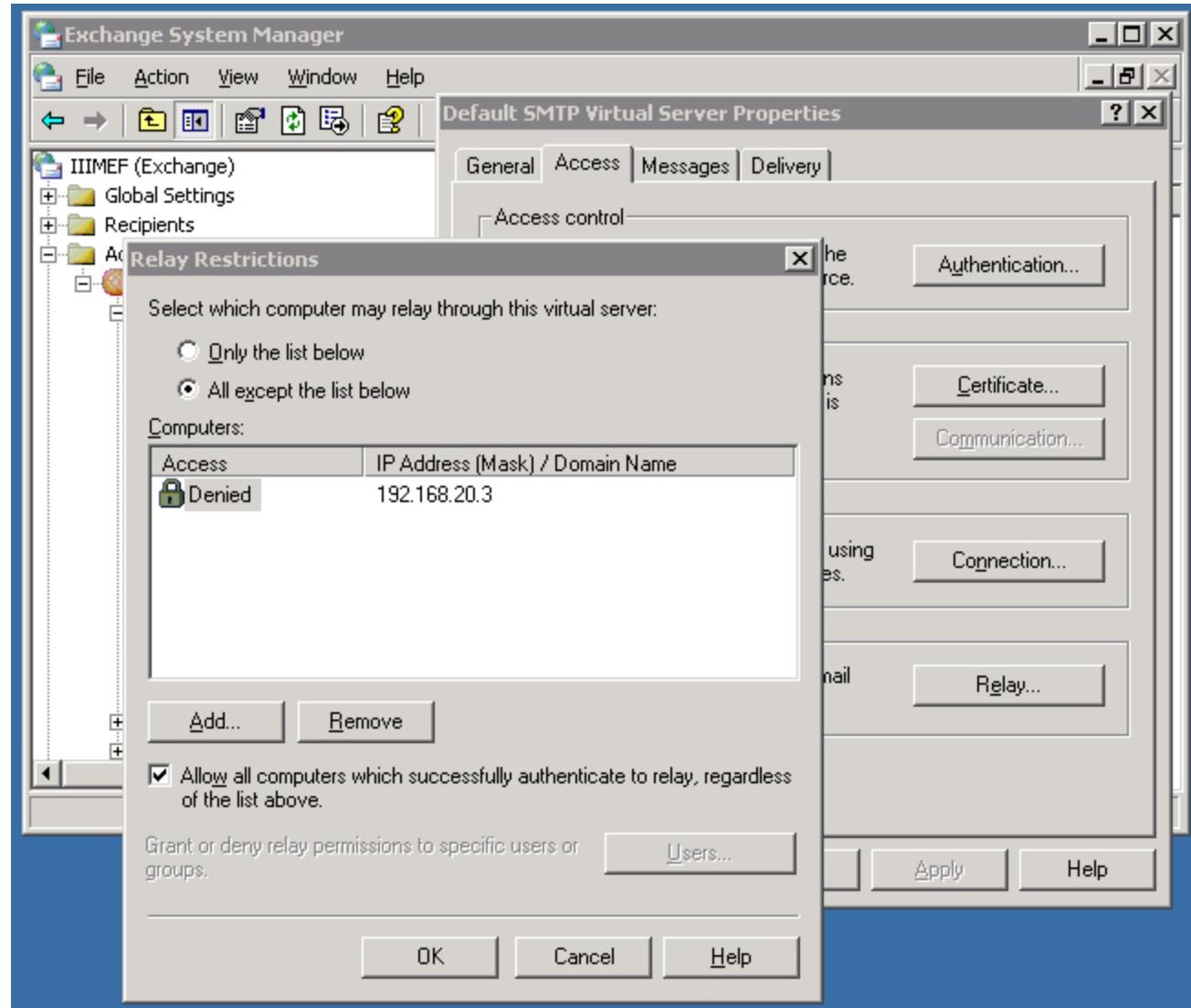


MSTP

- Used primarily to link Exchange 2003 Server and Exchange 5.5 systems
- Keeps AD and Exchange 5.5 directory in synch
- Once all Exchange 5.5 servers are converted to Exchange 2003 server, you will not need AD connector

Setting Relay Restrictions

MSTP



Schedule+Free/Busy Connector



MSTP

- Let's Exchange and Microsoft Mail users set up meetings with each other
- Free/Busy Connector is an extension of the MMC



Storage Groups



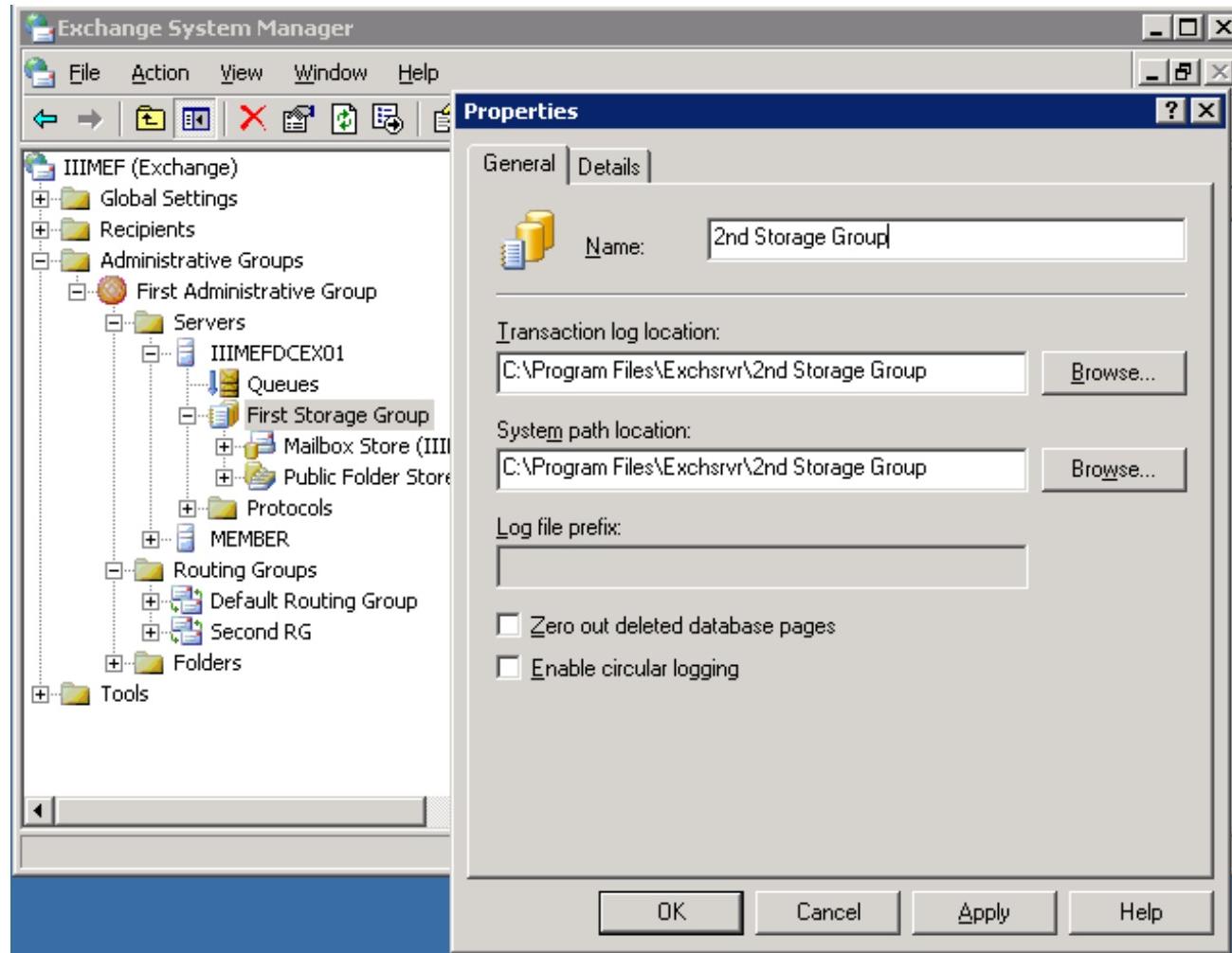
MSTP

- Storage Group
 - Contains the Exchange Databases
 - Share 1 transaction log
 - Four Storage Groups per server
 - 4 databases per storage group
 - Total of 16 databases per server



Storage Groups

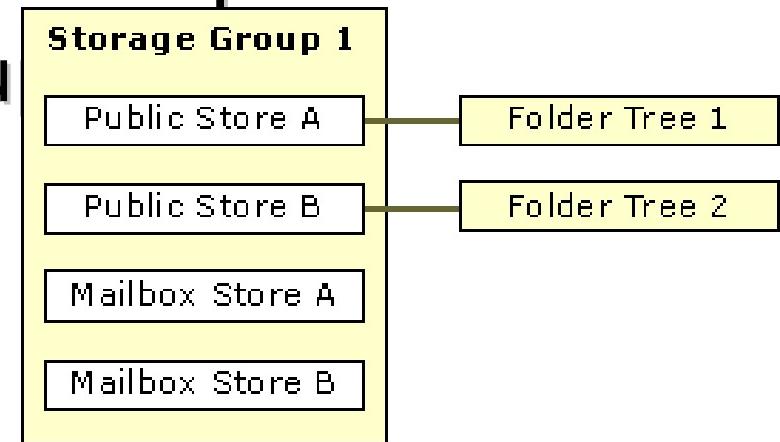
MSTP



Storage Group Setup

MSTP

- Setting up a Storage Group
 - Create a Storage Group
 - Create a Folder Tree
 - Create Public Stores
 - Create Mailbox Stores
 - Create Public Folders and Mailboxes



Outlook Web Access

MSTP

Discussion includes:

- Definition
- Features and Limitations
- OWA Environments
- OWA access process
- Virtual Directories



Outlook Web Access



MSTP

- What is Outlook Web Access (OWA)?

Outlook Web Access is a feature of Exchange that allows users to access mail and scheduling information from an Exchange server, using a standard Web browser

OWA Logon Interface



MSTP

Microsoft Outlook Web Access - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media Mail Print

Address https://server01.company.com/companyweb/bin/auth/owalogon.asp?url=https://server01.company.com/ Go Links >

Microsoft

Microsoft Office Outlook Web Access
Provided by Microsoft Exchange Server 2003

Domain\user name:

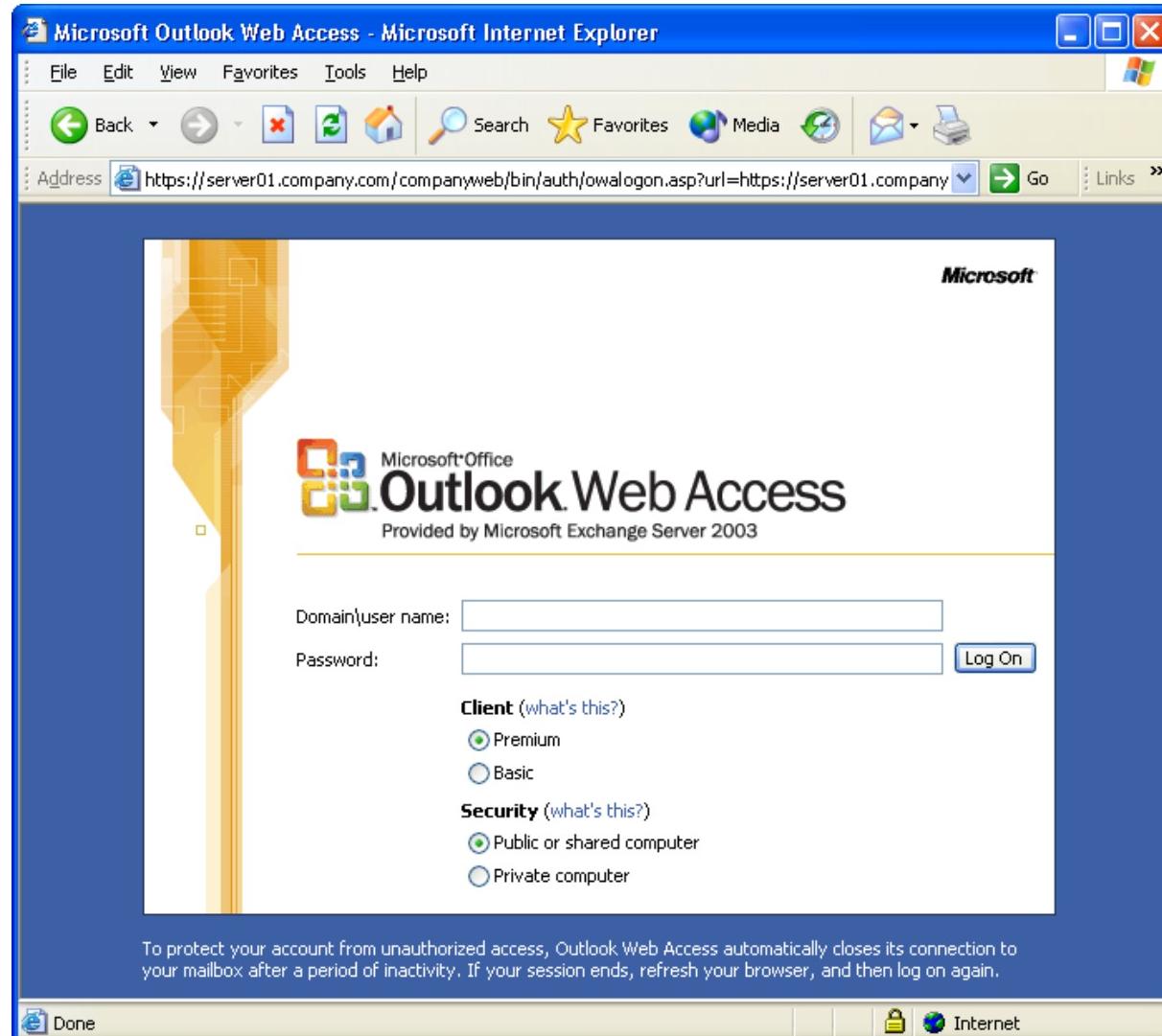
Password: Log On

Client (what's this?)
 Premium
 Basic

Security (what's this?)
 Public or shared computer
 Private computer

To protect your account from unauthorized access, Outlook Web Access automatically closes its connection to your mailbox after a period of inactivity. If your session ends, refresh your browser, and then log on again.

Done Internet



New User Interface



MSTP

Microsoft Outlook Web Access - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back → Address http://server01/Exchange

Microsoft Office Outlook Web Access Inbox (Two-Line View) Items 1 to 21 of 21 Log Off

Folders

- Anne Beebe
 - Calendar
 - Contacts
 - Deleted Items
 - Drafts
 - Inbox (10)
 - Journal
 - Junk E-mail
 - Notes
 - Outbox
 - Sent Items
 - Tasks

Inbox

Calendar

Contacts

Tasks

Public Folders

Rules

Options

From Received
Subject

Ted Bremer Release Notes Mon 3/17/2003 1...
Mike Nash manual test Wed 3/12/2003 ...
crossforest Tue 3/11/2003 1...
Ted Bremer 2/17/03 8:49 test Mon 2/17/2003 8...
Ted Bremer 4:47 Mon 2/17/2003 5...
Ted Bremer Re: reply from ted Mon 2/17/2003 4...
Ted Bremer test1 Thu 2/13/2003 ...
Ted Bremer OMA test Thu 2/6/2003 ...
Ted Bremer test Thu 2/6/2003 ...
Ted Bremer Accepted: test Thu 10/24/2002 ...
Ted Bremer RE: test Fri 10/11/2002 2...
Eric Lang Exchange Fri 10/11/2002 2...
Ted Bremer Thu 10/10/200...

Release Notes
Ted Bremer
You replied on 3/17/2003 2:50 PM.
Follow up
To: Anne Beebe
Cc:

Local intranet



New Color Schemes

MSTP





New Two-Line View

MSTP

The screenshot shows the Microsoft Outlook Web Access interface. A red arrow points from the left side of the screen towards the 'New' button in the toolbar. Another red oval highlights the 'Inbox (Two-Line View)' title bar. The main pane displays three email messages in a two-line view:

From	Received
Ted Bremer Release Notes	Mon 3/17/2003 12:...
Mike Nash manaul test	Wed 3/12/2003 5:3...
crossforest	Tue 3/11/2003 12:5...



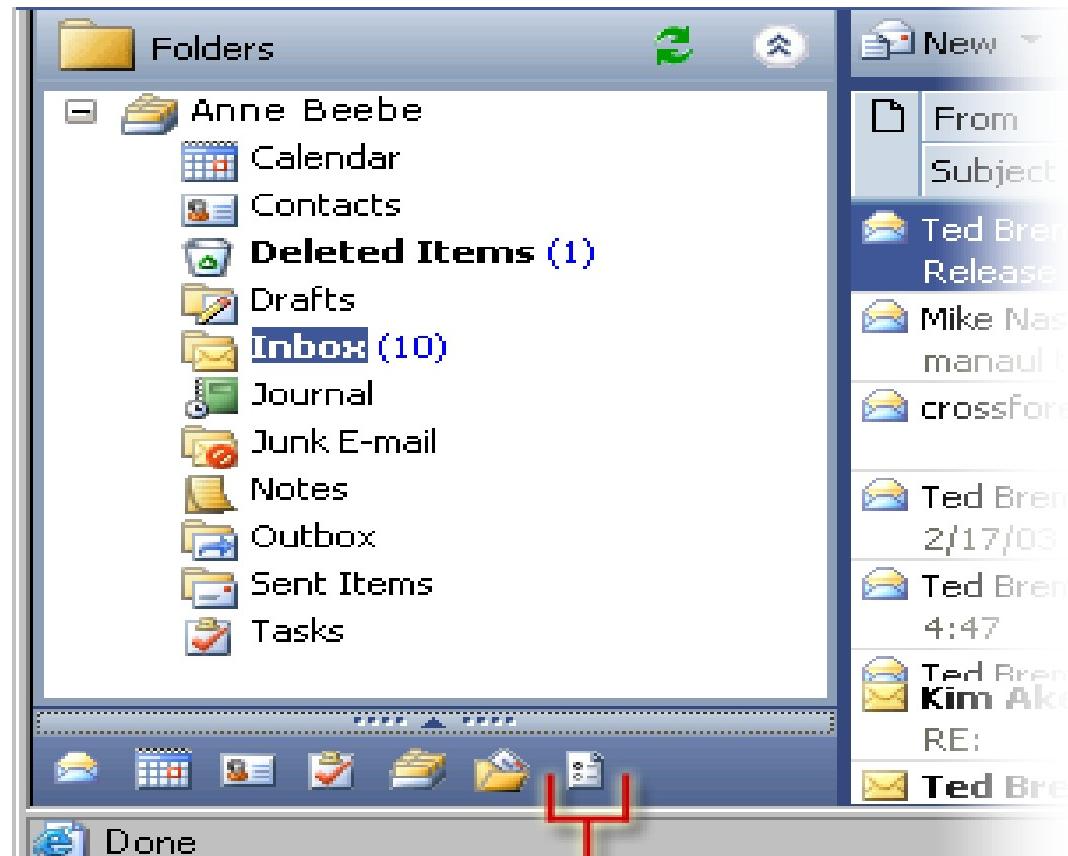
Shortcut Menus

MSTP



Spell Checker Option

MSTP



Go To Options button

Features and Limitation

MSTP

- Features
 - Similar features with Outlook 2000/2003
 - Uses simple URLs to reference items
 - Ideal for Front-End Back-End configuration
 - WebDAV protocol and S/MIME support
 - Clears cached profile with logoff
 - New OWA SSL splash screen
- Limitations
 - No offline support or synchronization

OWA Environment Single Server



MSTP

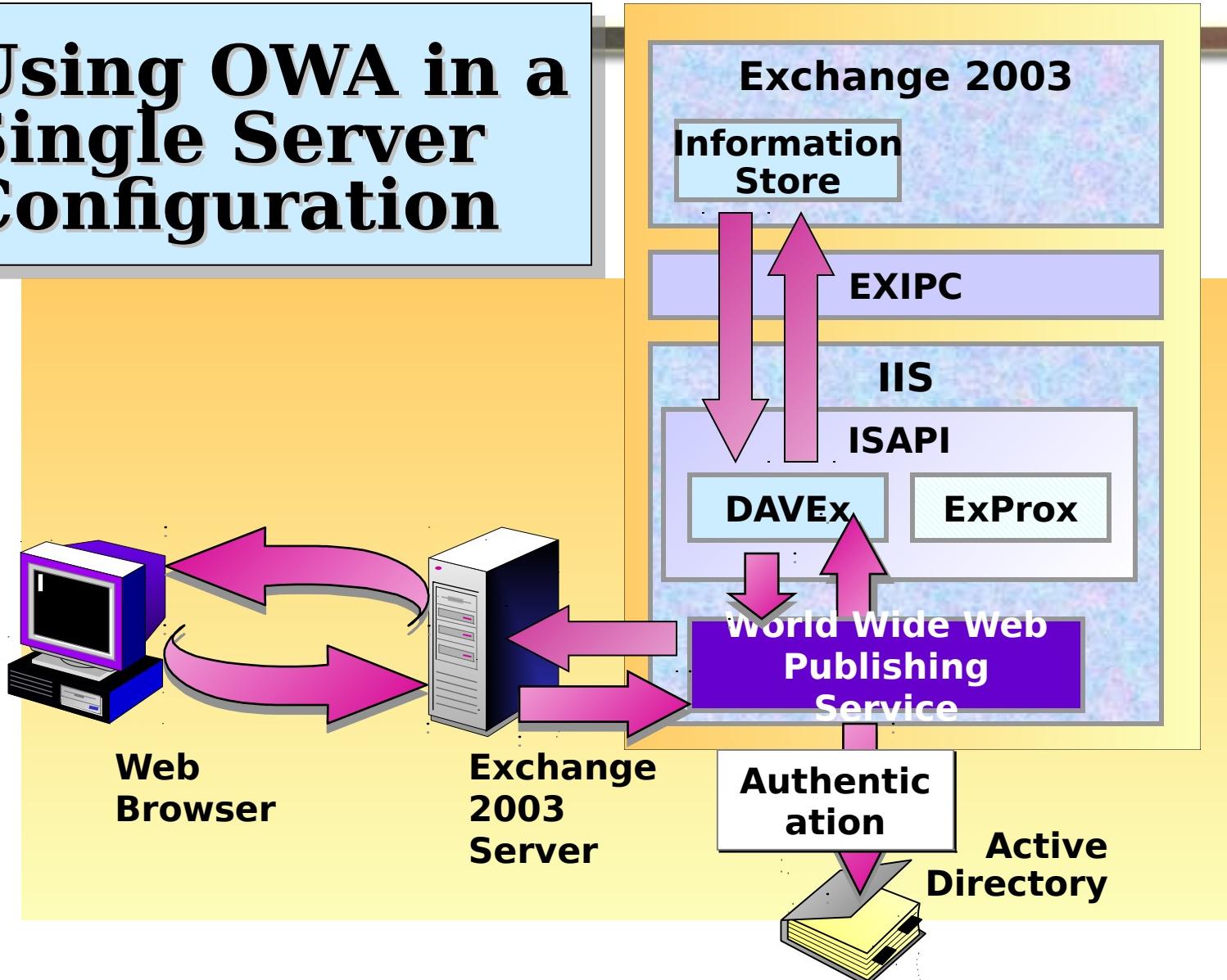
Single Server configuration:

- Both the OWA server and Exchange Messaging server are contained in a single Exchange server
- No configuration required
- Can have multiple Exchange servers configured as Single servers



MSTP

Using OWA in a Single Server Configuration



OWA Front-end/Back-end

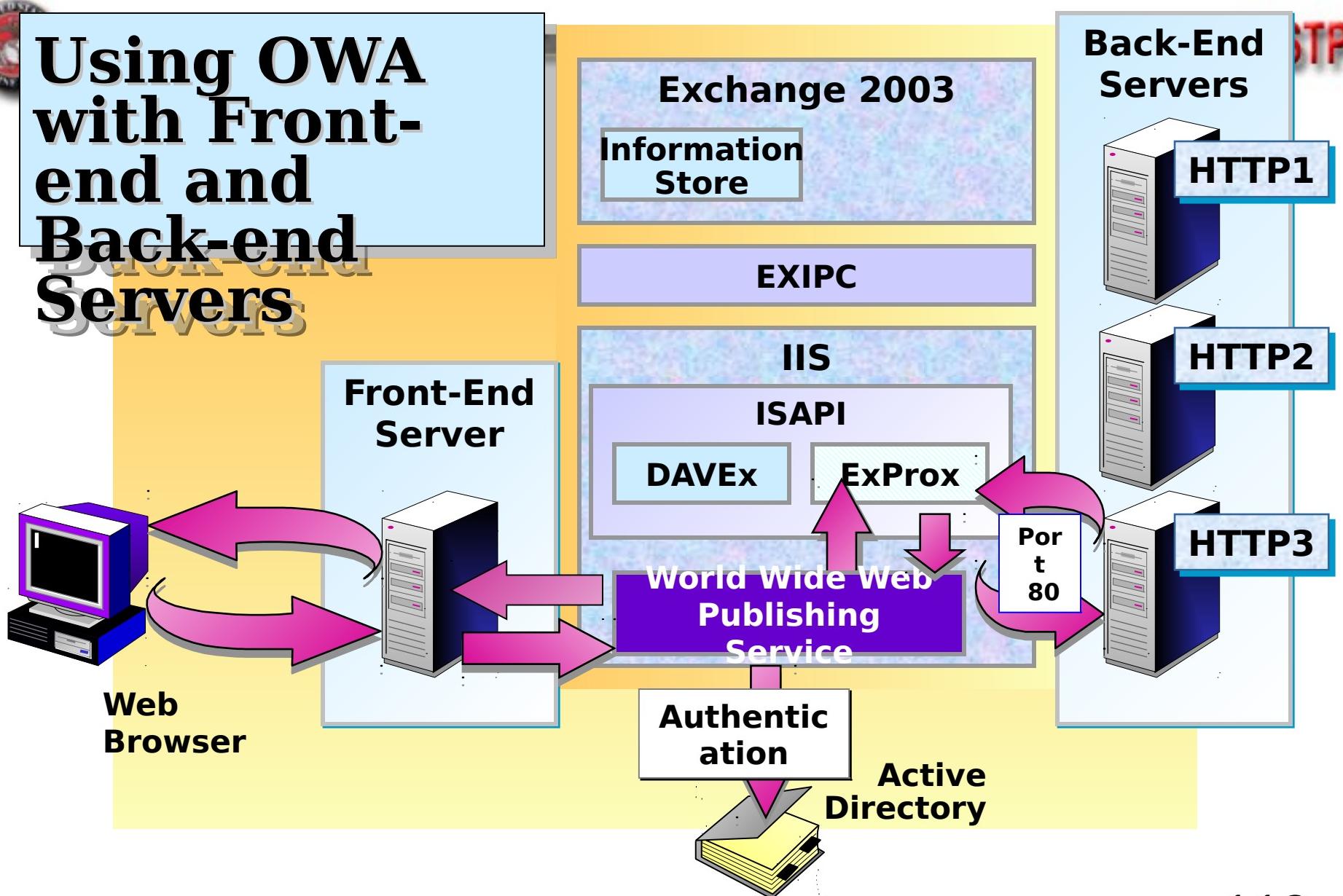


MSTP

Front-end/Back-end (FE/BE) configuration:

- OWA and Messaging components are split:
 - Front-end servers are OWA servers
 - Back-end servers are Messaging servers
 - Users do not have to direct OWA requests to a specific server
- Front-end Load Balancing
 - Microsoft Network Load Balancing
 - Round Robin DNS

Using OWA with Front-end and Back-end Servers



Securing OWA



MSTP

OWA Authentication Types:

- Basic Authentication
 - Secure Sockets Layer
- Windows Integrated Authentication
- Anonymous Access

OWA Lab

MSTP

- Review OWA in browser.



MSTP

Disaster Recovery



Planning for a Disaster



MSTP

- Items that need to be considered when planning your disaster recovery
 - Acceptable downtime
 - Hardware Requirements
 - Plan your organization with recovery in mind
 - Items to have on-hand
 - Log all Server Maintenance

Planning for a Disaster

cont...



MSTP

- Safe Storage of Backups
- Hardware Spares
- Single Point of Failure



Fault Tolerance



MSTP

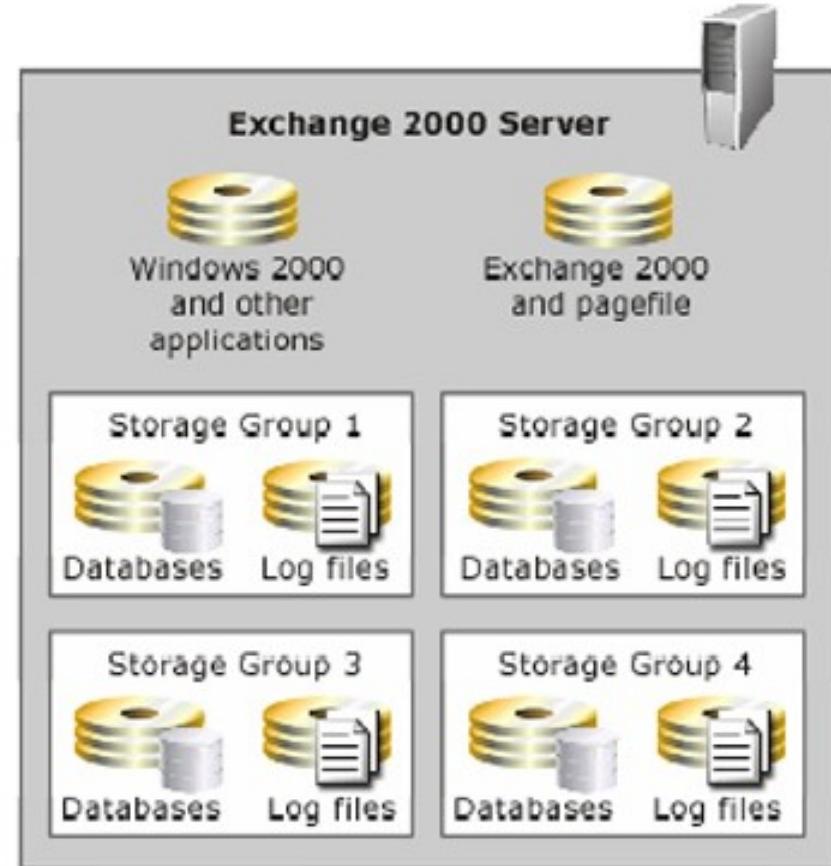
- Keys to fault tolerance
 - Eliminate Single Points of Failure
 - Log Files
 - Separate them from the Database files
 - RAID arrays
 - UPS

Disk Setup for Disaster Recovery



MSTP

- Disk Setup
 - Partitioning
 - RAID Arrays



10 Disk setup example

Disaster Recovery Concepts



MSTP

- Relationship with Active Directory
 - Distribution groups
 - Require AD permissions to administer E2K3
- Log Files
 - Checkpoint file
 - Circular Logging
 - Moment of failure recovery

Database Recovery Considerations

MSTP

- Normal backups should backup an entire storage group
 - Normal (Deletes Logs older than Checkpoint)
 - Incremental (Deletes Logs older than Checkpoint)
 - Differential (Doesn't delete logs)
- It is possible to restore a single database in a storage group without affecting other databases
 - Uses a reserved ESE instance to temporarily hold the restored database

Database Defragmentation



MSTP

- Online Defrag
 - Runs between 1am and 5am by default
 - Frees and organizes database space, but doesn't reduce the size of the database
- Offline Defrag
 - Takes the Database offline (No MAIL)
 - Completely reorders database pages
 - Be sure to run a new Normal backup after defrag



E2K3 Restoration



MSTP

- Use the /disasterrecovery switch when running Exchange setup
- Restore or Rebuild? (The Server)
 - It is usually better to restore than to rebuild the Server



Backing up your Server



MSTP

- Choose the type of recovery you are going to use
 - Restore or Rebuild
- At a minimum the least you should backup are the storage groups and the log files.
- Choose a type of backup
 - Normal
 - Incremental
 - Differential



Disaster Recovery

MSTP

- Before you Restore, try to Repair
- Troubleshoot the server first
 - Many problems with Exchange can be corrected with basic server troubleshooting
 - Troubleshoot Windows 2003
 - DNS
 - Active Directory
 - Connections (Physical and Logical)
 - Troubleshoot Exchange 2003



Repair the Database

MSTP

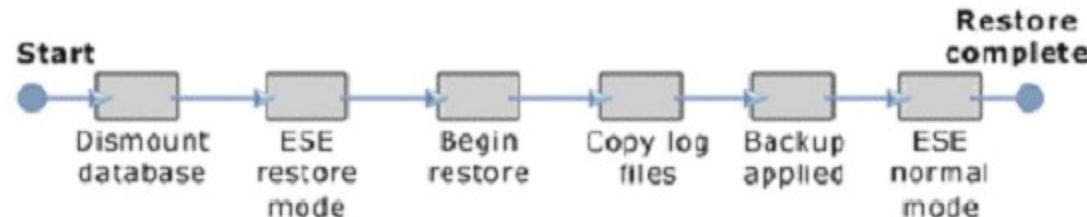
- Utilities
 - Eseutil.exe
 - Isinteg.exe



Restore the Database

MSTP

- Overview
 - Backup causes the ESE to enter restore mode
 - Database copied from the backup media to target directory
 - ESE creates an extra storage group (Ghost storage group)





Restore Steps



MSTP

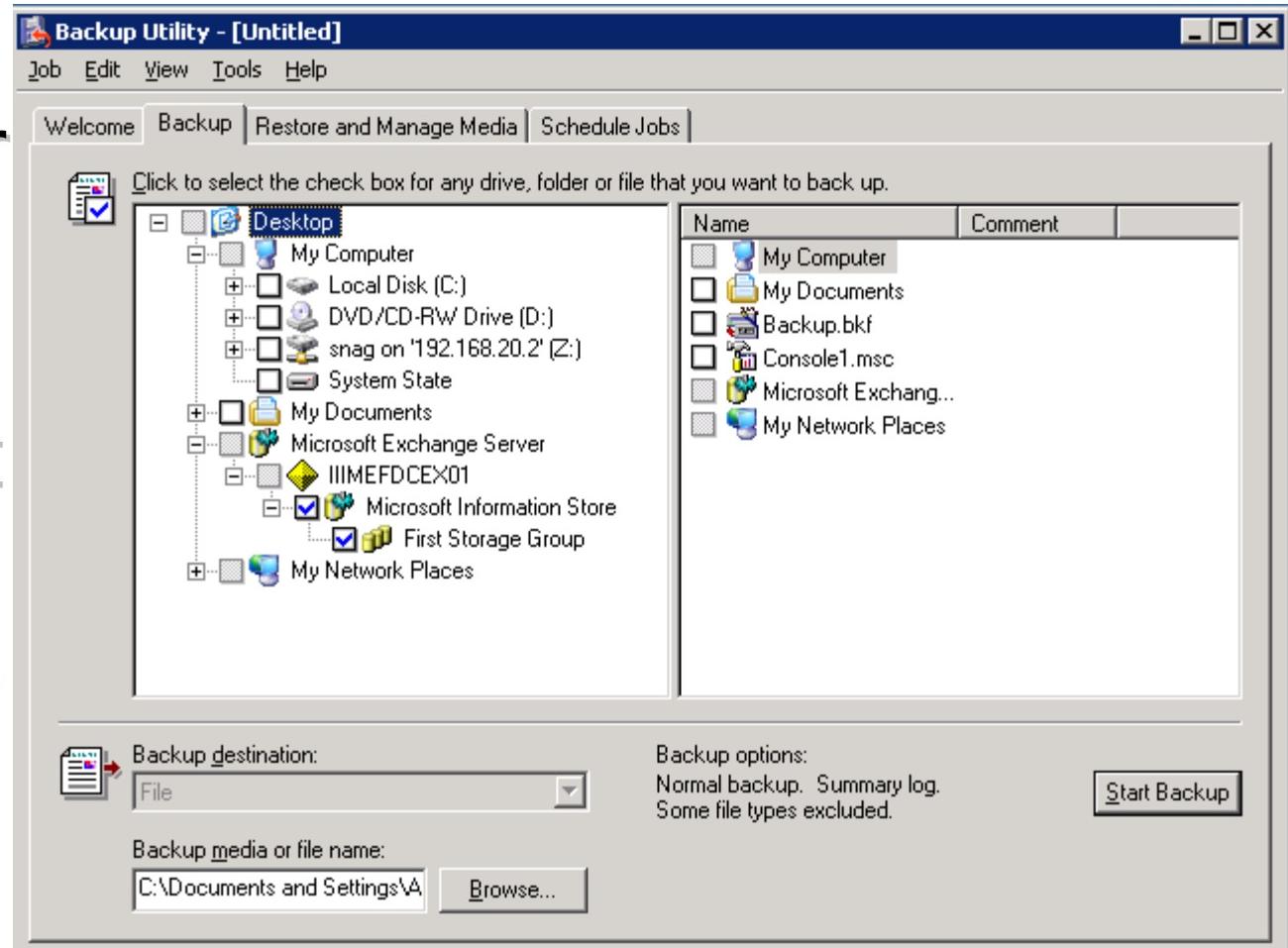
- Dismount the Database to be restored
- Configure the properties for the database to allow the backup to overwrite contents
- Determine location of database and log file
- Copy or move current database to alternate location (just in case)



Start the Restore

MSTP

- Open your backup program and select the databases to be restored



Note: Recovery Storage Group must be created to be able to backup storage groups



Restore in progress

MSTP

- Specify the temporary locations
- Last set in Backup Checkbox

Troubleshoot a failed Restore



MSTP

- Search for errors in the backup status window
- Check the Backup log
- Check the Application log

Exchange 2K Administration

MSTP

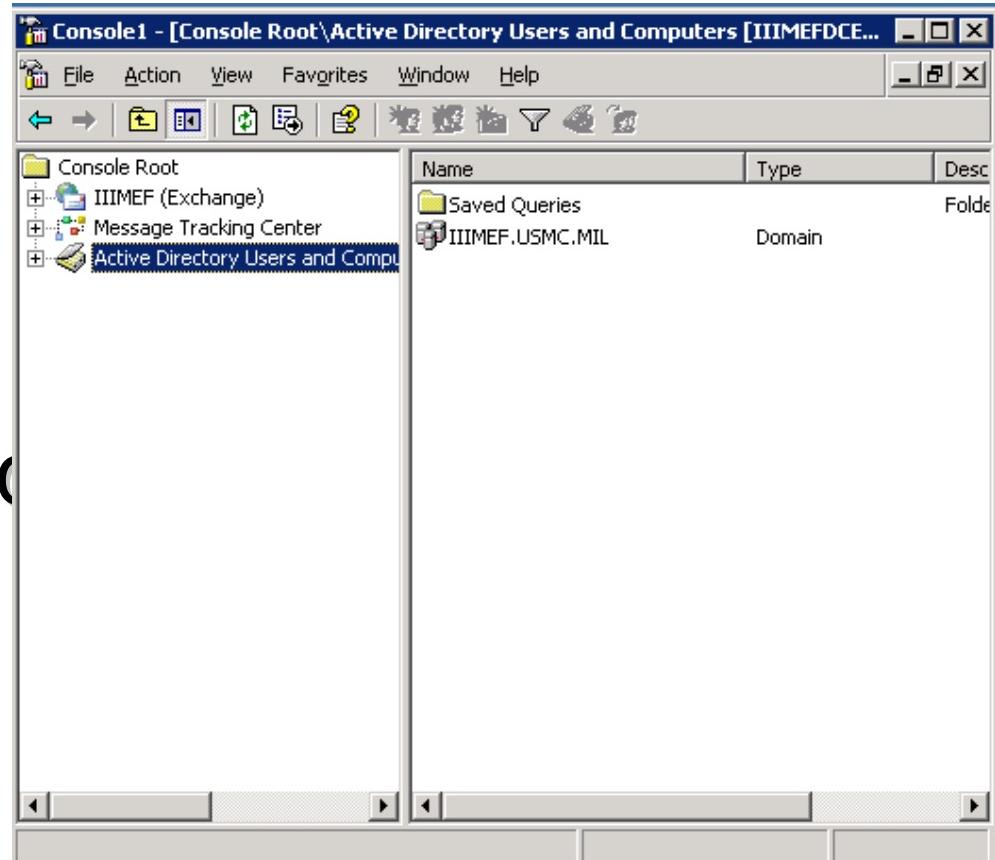
- Monitoring Exchange
- Event Viewer
- Performance Monitor
- Microsoft Management Console
 - Exchange System Manager

MMC Snap-ins



MSTP

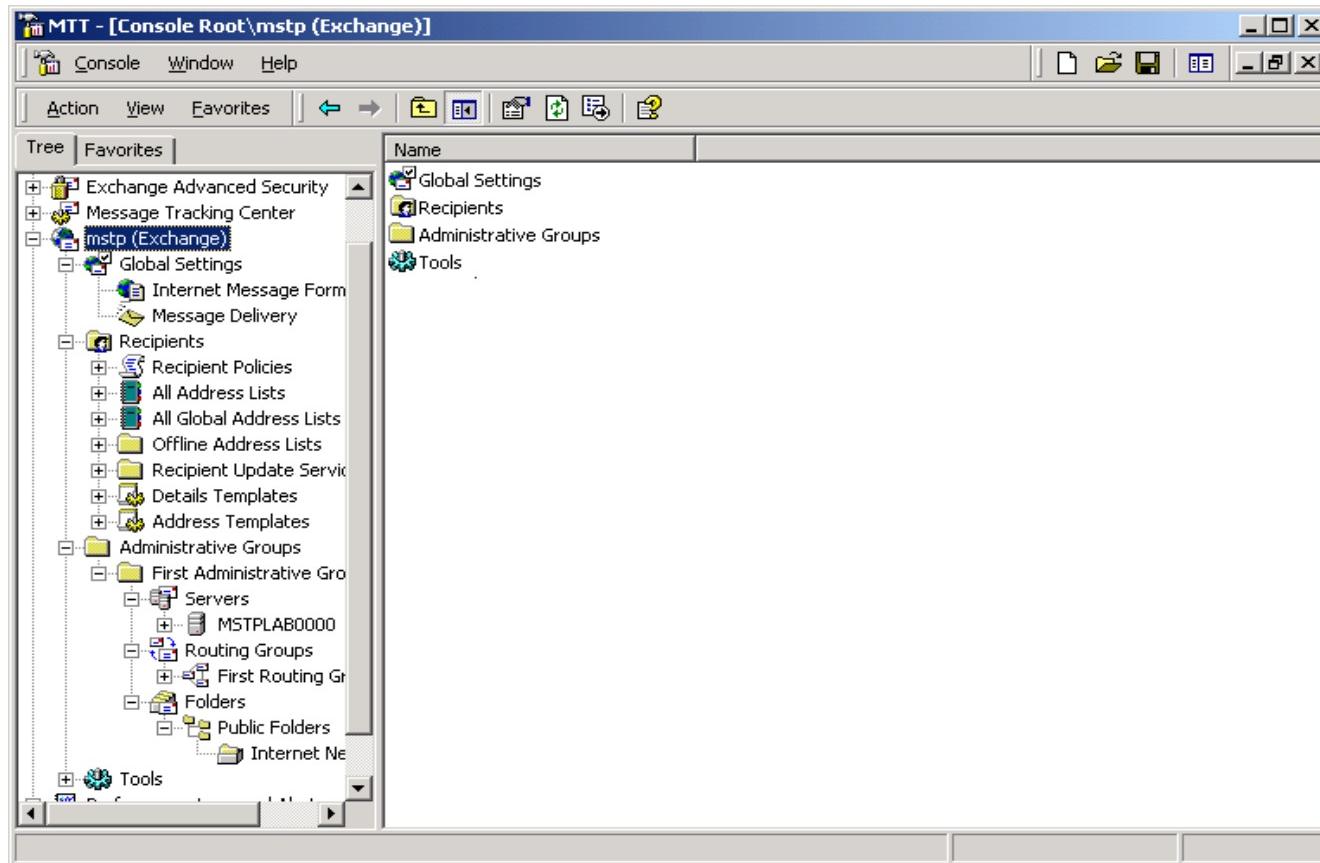
Recommended
Snap-ins



Exchange System Manager



MSTP



Message Tracking Center



MSTP

MTT - [Console Root\Message Tracking Center]

Console Window Help

Action View Favorites

Tree Favorites

Console Root

+ Active Directory Users and Computers

+ Exchange Advanced Security

+ Message Tracking Center

mstp (Exchange)

+ Performance Logs and Alerts

+ Computer Management (Local)

Message ID:

Sender...

Server...

Recipients...

Find Now

Stop

New Search

Help

Logged Between: 5/ 8/2003 12:00:00 AM and 5/ 8/2003 8:04:59 AM

Origination Time | Sender | Subject

The screenshot shows the Microsoft Management Console (MMC) interface for the Message Tracking Center. The title bar reads "MTT - [Console Root\Message Tracking Center]". The left pane features a tree view with nodes like "Console Root", "Active Directory Users and Computers", "Exchange Advanced Security", "mstp (Exchange)", "Performance Logs and Alerts", and "Computer Management (Local)". The "Message Tracking Center" node is selected. The right pane contains search criteria: "Message ID" (empty), "Sender..." (empty), "Server..." (empty), and "Recipients..." (empty). Below these are date/time fields for "Logged Between": "5/ 8/2003 12:00:00 AM" and "and 5/ 8/2003 8:04:59 AM". There are buttons for "Find Now", "Stop", "New Search", and "Help". At the bottom is a results grid with columns "Origination Time", "Sender", and "Subject".

AD Users and Computers



MSTP

Administrator Properties

Member Of | Dial-in | Environment | Sessions | Remote control
Terminal Services Profile | COM+ | Exchange General
General | Address | Account | Profile | Telephones | Organization
E-mail Addresses | Exchange Features | Exchange Advanced

Each e-mail address type has one default reply address. To change the default, select an entry in the list, and then click Set As Primary.

E-mail addresses:

Type	Address
SMTP	Administrator@IIIMEF.USMC.MIL
smtp	postmaster@IIIMEF.USMC.MIL
X400	c=US;a= ;p=IIIMEF;o=Exchange;s=Ad...

New... Edit... Remove Set As Primary

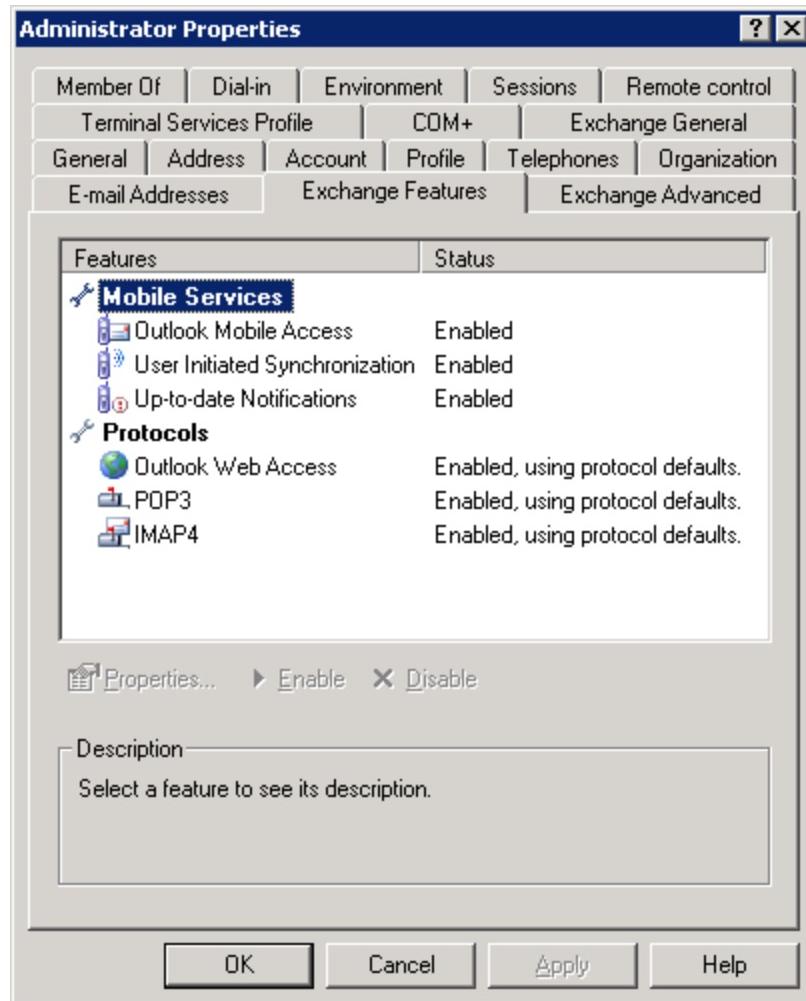
Automatically update e-mail addresses based on recipient policy

OK Cancel Apply Help

AD Users and Computers



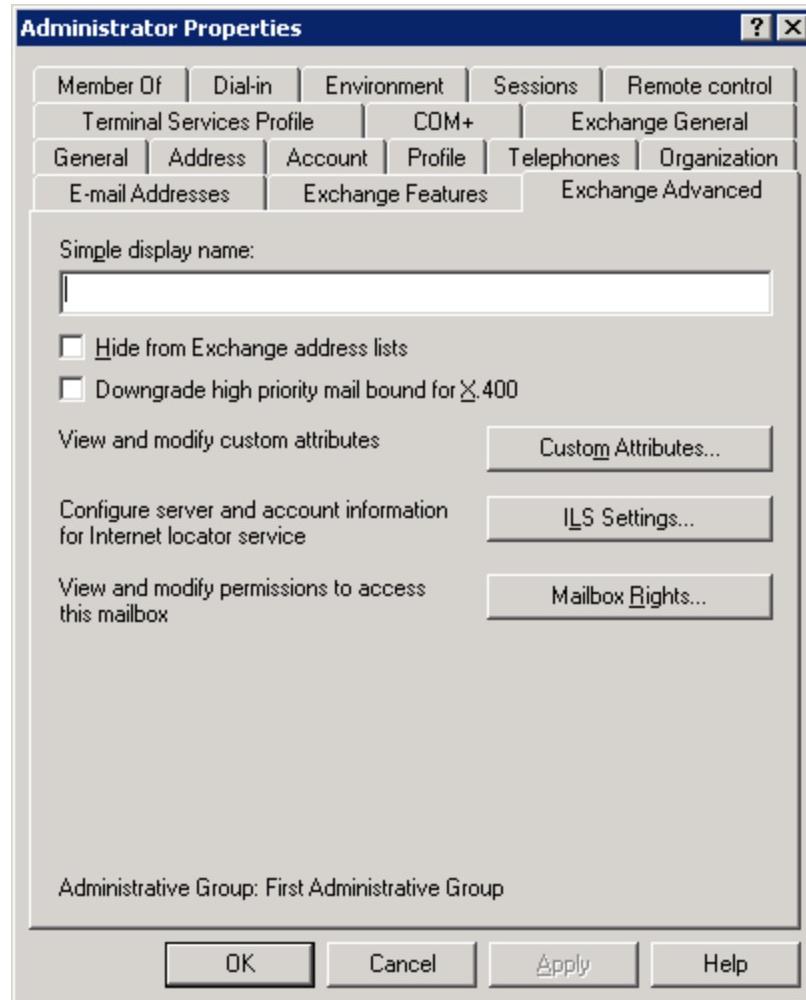
MSTP



AD Users and Computers

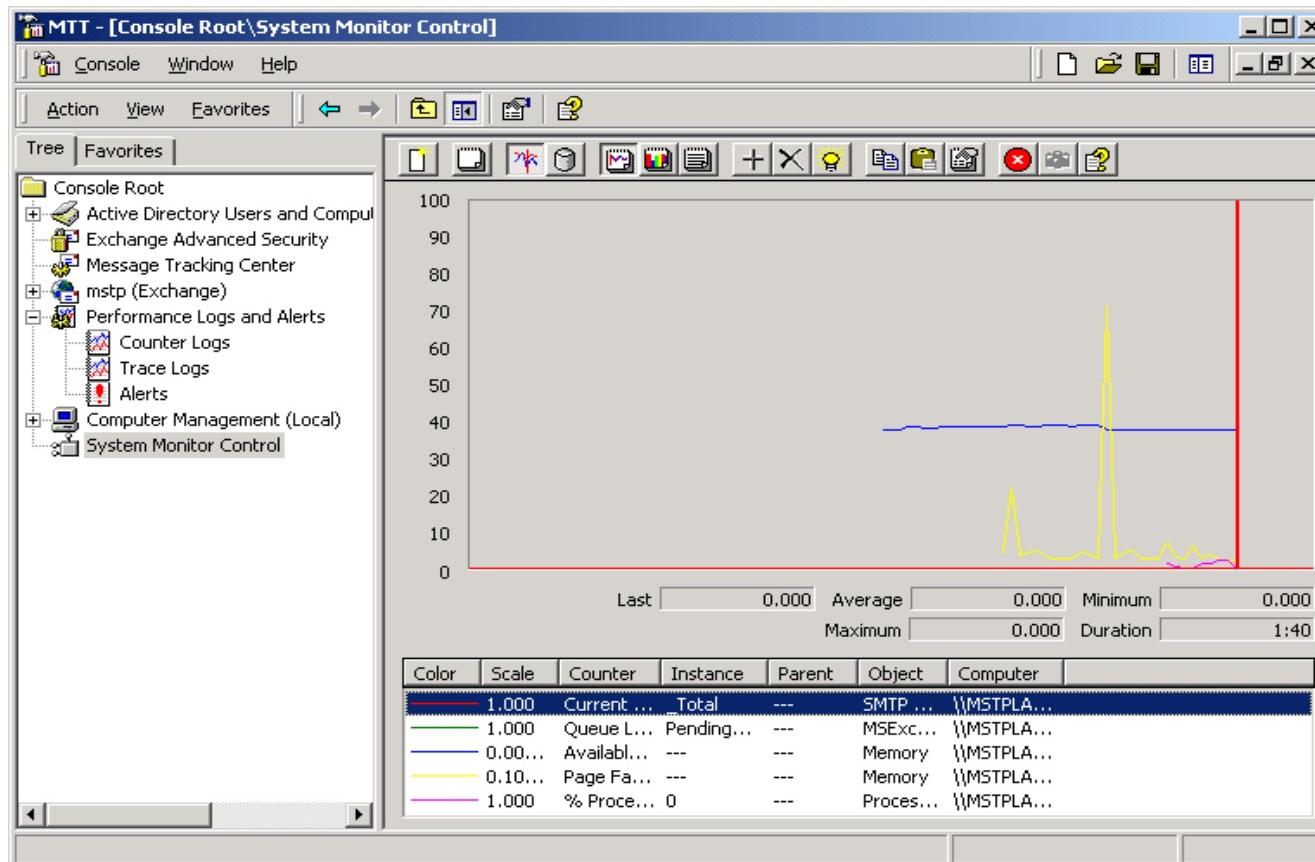


MSTP



Performance Monitor

MSTP



Exchange and DNS - NSLOOKUP



MSTP

```
C:\WINNT\System32\cmd.exe - nslookup
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:>nslookup
Default Server: mstplab0000.mstp.usmc.mil
Address: 192.168.0.2

> set type=any
> mstp.usmc.mil
Server: mstplab0000.mstp.usmc.mil
Address: 192.168.0.2

mstp.usmc.mil      internet address = 192.168.0.2
mstp.usmc.mil      nameserver = mstplab0000.mstp.usmc.mil
mstp.usmc.mil
    primary name server = mstplab0000.mstp.usmc.mil
    responsible mail addr = admin.mstp.usmc.mil
    serial = 22
    refresh = 900 <15 mins>
    retry = 600 <10 mins>
    expire = 86400 <1 day>
    default TTL = 3600 <1 hour>
mstplab0000.mstp.usmc.mil      internet address = 192.168.0.2
> -
```

Questions?



MSTP

